AMERICAN BEE JOURNAL

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# I Have Made a Discovery

By Observer

I HAVE made a discovery! I have discovered Honey Jelly! Not that this is any credit to me, nor that others have not discovered it before, but the wonder to me is that no one else has been really enthusiastic about it. And I am. Honey jelly, in my view of things, will, if properly exploited, solve the honey marketing problem, and "that's something."

Everybody who tries to sell honey knows what is the matter with it. Natt Dodge summarized these things in the July American Bee Journal. Now it is a fact that none of these things are wrong with Honey Jelly. All those people who like honey and who would serve it were it not for these difficulties can use honey jelly with satisfaction. The fastidious hostess can serve it to her guests with delight, and they will, as one has expressed it, "go crazy over it."

Honey Jelly, paralleling Dodge's statements about honey, is CONVENIENT. It is not runny, sticky, or stringy. It does not get into places where it is not wanted. It stays put just like a good fruit jelly. It stays on the spoon, falls off cleanly, does not mess up the tablecloth, does not run down the side of the container or fasten the container to the cupboard shelf.

It never touches the cover of the container and is not distributed over the housewife's fingers and does not become plastered over whatever the cover is laid upon. When placed on the table in a glass, the spoon remains on top of the jelly, as all good spoons should. When placed on the plate, it does not sneak off under the potato or gravy where it is not wanted, although it has a natural affinity, in its proper varieties, for roast lamb and turkey, just as mint and cranberry jelly have.

When spread on bread it does not go on a tour of exploration over the edge and through the holes. Nor does it find its way to Johnny's new necktie or to the chair cushion or the floor. No special containers are needed for Honey Jelly. It behaves perfectly in a glass dish, on a plate, in a jelly glass, as topping for a pudding or a dessert, just as any other good jelly does, and, as one honey lover said of it, "I like it better than honey because you can eat more of it."

"And then"—it is not only one kind of jelly, but may be any one of a thousand flavors, to suit the taste. If you want to experience, in all their delicacy, the delicious and distinctive tastes and smells of honey, just make honey jellies of your favorite varieties.

Begin with clover, and when you taste jelly made with clover honey you will have visions of wide pastures redolent of snowy waves of clover bloom, of fields giving off the clean fragrance of new-mown hay.

"And then"—try jelly made with basswood honey, and you will dream of "Unter der Linden," of the hum of bees in the widespreading basswood trees where the creamy blossoms scent the air.

"And then"—try jelly made from the full-flavored buckwheat, and you will find that savory effluvium so mellowed and ripened that you are apt to think of the quotation, "Sabaean odors from the spicy shores of Araby."

Let us journey west and sample sweet clover jelly. What a delight is there! "Lucent drops, tinct with cinnamon." What a clear, pure jelly, dainty in texture, with an almost evanescent cinnamon and vanilla odor. Spread this jelly on crisply baked, nutty rolls or bread, and "Oh, my countrymen," you have a staff of life to make you lick your chops and ask for more!

Journey to the orange groves. There the bees make a wonderful honey that few people can eat much of. But make it into jelly! There's something to revel in! The cloying sweet orange fragrance is reduced until it is a pure delight.

Let us ascend into the mountains, where grow the white and purple sages, and prepare a spicy jelly which surely excels the fabled Honey of Hymettus, because the old gods never had a chance to dine on jelly made from sage honey. What did they know of ambrosia? They never had a chance to open a glass of Sage Honey Jelly, inhale the aroma arising from it, like incense too delicate to describe, yet so pleasing, so reminiscent of breezes of forgotten flowers, that even the gods themselves would seek no further for a choice morsel. What more could the gods ask?

We must not forget the use of honies of mild and undistinguished flavors, of which jelly may be made in combination with the juice of grape, or currant, or any fruit or essence, into a tasty product. Any vegetable coloring may be used with light colored honies when making jelly to match table decorations or as desired for any special occasion.

Now, let the man who is omnivorous; whose palate accepts with joy all the kinds of food in which any human ever found pleasure, and who is searching for a toothsome combination, try the effect of various kinds of honey jellies with curds or such of the cheeses as plain yellow cheese or Neuchatel — Swiss cheese, Edam, Roquefort, even Limburger — any cheese that may be at hand—and he will not rest until he has sampled more of them. He will eat honey jelly with cream cheese, with welsh rabbit, with cheese omelet, and he will place colored dots of it on a flaky souffle.

Then he must consider a whole list of edibles with which he may eat honey jelly, to advantage: biscuits, buns, cookies, doughnuts, fritters, corn cakes, short bread, flapjacks, waffles, brown betty, mince and pumpkin pie, plum puddings, ice

creams — all of these with rich flavored honey jelly, or meringue and whipped cream with honey jelly.

Or, to come to humbler things, hominy, oatmeal, mush, spoon bread, porridge, samp, crowdie, frumenty—all with rich milk and honey jelly of a well-liked flavor. These are experiences not to be sneezed at. "Who can cloy the hungry edge of appetite" when such common foods can be served with such luscious creature comfort as a honey jelly that gives out a smell of which one sniff leads one to an attack in which he can say, "We have met the enemy and they are ours"?

Or, of a morning, when it is yet early and the appetite is discriminating, a grapefruit sweetened with honey jelly (it is just as good for this as honey, without its faults) with some honey jelly for the toast and another flavor for the omelet—jelly with just enough acidity in it to remove that exceeding sweetness—for honey jelly uses the acid of orange and lemon in its making and is an altogether different sweet from honey alone, although retaining all the desirable qualities, flavors and aromas of the original honey.

I told you I had made a discovery and was enthusiastic. Do you believe it now? And if you are a discriminating epicure, whose cultivated taste requires unusual qualities in the dainties of the table, or if you are a gormet, who insists on good living t the fleshpots, or if you will confine yourself to a simple diet, honey jelly will find a place on your bill of fare.

Then, too, honey jelly will have its place on the table just as a sweet. It can hold its own, in its many flavors and aromas, with any preserve, jam, jelly, marmalade, sweetmeat or confection. Its sweet acidity makes it an acceptable dainty when many another savory would not be agreeable. It is good just for itself, and needs no combination even though it fits so well into combinations.

And now, after all this, what is honey jelly, and how is it made? Well, with the editor's good graces, I shall tell you how to make honey jelly next month, and I assure you you will be surprised, just as I was, at the simplicity of the process.

## It Was a Grand Week, All Right

RESPONSES to Honey Week were gratifying and such as to show that beekeepers everywhere have responded to this annual effort to boost the industry. If it does nothing more than raise the consciousness of honey producers so that they "turn themselves inside out," so to speak, toward their customers, those who eat honey and are not beekeepers, it has done its work.

But it has gone much further than that, as reports coming to this office indicate plainly. It has actually stimulated a demand for honey. In our instance, we found grocers responding to the publicity to such an extent that they scolded us roundly for not furnishing their stores with honey. Isn't that unusual?

A number of large distributors of honey have written us to the effect that honey is moving with more readiness and in greater volume than for a number of years, and they credit the interest not only to Honey Week but to the work of the Institute in general. At the time of going to press, we do not have any outstanding efforts to report, although we know that there must be many which would be worth telling about; efforts that made Honey Week a very real thing in many communities. Perhaps later we will have reports of this nature.

For our own part, displays of bees and honey in grocery windows, electrical shops, bakeries, banks, and broadcast announcements every day of the week, two special broadcast talks and advertising in the newspaper, brought to the consciousness of our market community the fact that honey was "on the air" for certain. The effects are continuing to be felt and we expect them to still be felt long after Honey Week has passed.

We can't get over the thrill of those national network broadcasts, arranged by the Institute, with food groups, and the fine state-wide broadcasts. They put honey before so many people it is almost impossible to realize the extent of the contacts.

## Waste in Improperly Assembled Equipment

By Jes Dalton

I have often thought what a pity it was that there could not be some way to prevent wasted effort in poorly assembled or home-made equipment. This spring I have been reconditioning a lot of frames that had been saved up; some through the solar wax extractor, others thrown out of the hives.

What a saving it would be to everyone concerned if states could enact laws and educate the people up to not allowing the use of home-made frames except where the maker owned certain types of machinery. Frames a trifle too long, too short, too shallow in depth.

A certain neighbor made all his frames, hives, etc.—of course, not using foundation at all. When the depression came on this spring, he wished to sell out some fifty-odd colonies. A practical beekeeper, taking advantage of the depression to increase, came down to look at the outfit. He gave one snort of contempt, went off and bought some hundreds of colonies from two other parties at a larger price. This owner still has those on hand and can't understand why he cannot sell them when others can sell at a larger price.

Another bee owner kept nearly one hundred hives in tubs, cans, and trunks, with a sprinkling of standard hives. He was approached during the previous years to buy and clean out, but always held out for standard prices. During the depression he has tried to sell. He has taken combs from the standard hives and allowed them to be built back in by nature. He also wonders why he cannot sell this for one-half of what he had previously been offered. And he also wonders "what is wrong with the world." It certainly is a pity that such useless waste of energy could not be prevented.

Every home-made hive and set of frames put in with no foundation represents an outlay of energy large enough to put in a standard hive with a set of frames and foundation, and the latter is worth something when the owner needs cash, while the former is often the very worst of dead losses. It is an economic loss to the first fellow who put together the odd contraption and later to the unfortunate fellow who in some roundabout fashion fell heir to the worthless inheritance.

Just recently a man called at my place to get me to look into an investment of his, amounting to about $100.00 worth of honey bottles. I went to look at them, as I sell honey on stands along highways. Thousands and thousands of standard honey bottles were piled in rotten crates under his house and scattered around on the ground, crates all rotted away, paper cartons ruined, caps for the jars all rusted, the bottles stained and some of them half filled with dirt. The glass bottles were standard all right, but it was next to impossible to even count them. Everything else was worse than wasted. Just why people put out money and effort into bees or equipment and utterly waste it is beyond me; also just why there is not more of an effort to educate and prevent such an economic loss.

## A Correction

We acknowledge the mistake made by us of reproducing on page 439, September number, the little picture of the "National Honey Week Stickers" copied by the American Honey Institute from the brochure on the sale of honey of the "Gazette Apicole' 'of Montfavet Vaucluse, France, without giving the latter credit for

originating it. And, by the way, we wish to say that the "Gazette Apicole" publishes more original pictures on bees and beekeeping than all the other bee magazines put together.

## Constance Leeby Discusses Honey in N. Dakota Bulletin

Circular 108, issued by the North Dakota Agricultural College, written by Constance Leeby, research worker in home economics, assisted by Marguerite Jennings and Louise Christensen, senior students in the School of Home Economics, has just come off the press. It is altogether the most interesting publication, describing the use of honey in cooking, that we have seen to date issued from an institution of this sort. It is full of fine pictures and most enticing recipes. We wish space permitted the reproduction of them, but copies of the bulletin may be obtained by writing to the North Dakota Agricultural College, Fargo, North Dakota, for Circular 108.

The booklet describes honey, how to keep honey, and gives tested honey recipes for baked foods, candy and jelly.

## Signs of a Brighter Day

An optimistic note has been sounded by Mr. Thomas C. Burleson, of Colusa, California, in regard to the honey market. He says: "The honey market up this way looks much better than for some months back, and I am sure that from now on honey prices will be on the up-hill grade. I am certain that the beekeeper who sells his honey at some of the prices now being offered will regret that he did not hold on a little while longer."

Mr. Burleson is in a position to know honey market conditions, especially in his part of the state; and, as this cheerful note comes from a man of large experience and sound judgment, it will be good news to all who read his words. But the statement applies more directly to honey producers who wholesale their crops than to those who try to sell to the consumer.

The beekeeper who tries to sell his honey to the consuming public soon learns more than he ever knew before about the meaning of competition. Cut-rate chain stores sell honey for less than the cost of production. Peddlers, and beekeepers, without honey of their own enter the grand scramble for the consumer's pennies. The only tangible result is to put the price of honey below the point where the producer can make a living.

But signs of a brighter day will be welcome, for, when one is benefited, all will be helped. Which is only another way of saying that the right kind of cooperation would bring to the day all its noonday brightness.

R. B. McCain.

## Mrs. R. B. Willson Passes

This picture of Mrs. Willson was taken in New York State several years ago

Mrs. R. B. Willson, wife of our valued contributor, Robert B. Willson of New York, passed from this life on Tuesday, November 3, following a six weeks' illness. We publish here a picture of Mrs. Willson standing in a field of buckwheat and taken in 1925.

Our friend "Bob" is left to carry on with his two fine boys, one six and one three. We extend our sympathy to him in a loss which to every young man is a severe one. It takes determination, sympathy and friendship with the blessing of work to get any true perspective out of the experience.

We know that all of our readers who have enjoyed the constructive writings of R. B. Willson will join with us in this expression of friendly sympathy.

## Why Offer Honey at Ruinous Prices Now?

By V. E. Dehart
North Carolina

After supplying my home market with honey, I loaded up a model T Ford and started out to hunt another market, with one price in mind. I was surprised when I found so many different prices on honey. It looked as though beekeepers would take any price the merchants offered.

I found honey sold all the way from 5 cents to 20 cents to dealers, but, of course, some of it was from different parts of the country. The worst part of it all, some of the beekeepers would ask one merchant from 5 to 10 cents more per pound for honey than he would ask the merchant in the next block.

This is outrageous. If that does not ruin the honey market, I don't know what will.

The worst of these price cutters sold honey in lard buckets, coffee pails, fruit jars, and just anything they could pick up. However, there did not seem to be much difference in the price of honey sold in regular honey containers, labeled with the producer's name.

I got discouraged after a two-day tour and headed for home with very little sold. I may be high on my honey, but my home market does not grumble, and when they use up what they have now they will be ready for more.

To cap the climax, my model T Ford with my honey was turned bottom side up in the road about two hundred yards below my house, with the honey running like mud down the road. One of my little girls was hurt some, but I wasn't injured much. The little girls heard me coming and had come out to meet me. My rear axle broke after I had picked them up and started up a heavy grade, without any emergency brake, so I had nothing to hold the car with and could not make it backward. So the rear end cut into the bank of the road, and the car turned over, with my two little girls and myself underneath.

I think the honey partly saved us, for the five-pound pails were stacked high enough to hold up most of the weight. It was an awful mess with honey all over everything.

However, the honey might just as well be there as to give it away. I know times are hard, but just remember, honey will sell later with good prices if we don't put too much on the market now and ruin it. Statistics show that there is not much honey this year in the country, and that should mean better prices later.

## A New German Bee Book

A new book which has just come to our library is entitled "Eine Bienenkundliche Reise durch Sowiet Russland" (A Beekeeping Trip Through Soviet Russia), by Dr. G. A. Rosch. Dr. Rosch has recently spent several months in the United States studying beekeeping.

The book, as its name implies, gives a description of the trip of Dr. Rosch through the soviets, covering principally the manufacturing establishments devoted to beekeeping and beekeeping educational institutions and their collaborators. The trip covered roughly the distance from Moscow and Tula to Tiflis, in the Caucasus, thence returning via Poland.

The book is cloth bound, sixty-four pages, illustrated, and is published by Karl Wacholtz, Neumunster in Holstein.

## Holiday Greetings

The holiday season brings a period of relaxation and good cheer. For a time there is a tendency to forget our troubles and postpone worrying about the future. The year just closing has been one of stress and disappointment to many. Banks have failed, factories have closed, savings have been lost and discouragement has prevailed. Yet in spite of all, conditions are far better in America than in many parts of the world. In China millions are homeless and hungry as a result of disastrous floods, hardly equalled in the history of the world. In many other countries there is untold misery and suffering from hunger and cold, and such conditions are common also in our own large cities.

The bee men are fortunate in that few among them lack for food, clothing or shelter. Prices may be low and the crop short, but we are sufficiently near to the source of supply to find food without serious difficulty. This is a time when we should be grateful for such comforts as we possess and when we should be liberal in sharing with those less fortunate.

There are many indications that we have passed the worst of the depression. More men are returning to work, prices of farm products are rising and there is a better feeling apparent. Within a few months we may expect a marked improvement. In the meantime let us make the most of what we have and try to forget those unpleasant things which cannot be helped.

## Windbreaks for the Apiary

You may have your hives well sheltered and packed for winter. But some of you may have neglected it. Remember that it is most important to have the apiary well sheltered against the cold winter winds. This sheltering may be attended to very late in the season. Better late than never. We cannot afford to disturb our bees in cold weather. But the putting up of windbreaks does not need to disturb the bees in any way.

The entrance of a hive is supposed to be placed facing south. It is a mistake to place it in the north. An east exposure will do, or even a west one. But the best exposure is south, southeast or southwest. On the north, a tight fence is advisable. Cornstalks will do, if they are located far enough from the hives so that rabbits, rats or mice will not run close to the hive and disturb the bees. The most ideal windbreak is an open shed, sheltering the hives on all sides but the front. The windbreaks are valuable in our northern states.

## Too Much Uniformity in the Looks of the Apiary

We notice in some of our contemporary magazines on beekeeping the pictures of apiaries of hundreds of colonies so arranged that they are all alike and a row of twenty-five to thirty colonies is so exactly uniform that a beekeeper would have difficulty in recognizing one of them apart from the others. Such an apiary is displayed in "L'Alveoni" by Signor Baccega Giovanni, in Brenta, Padua. We think it is of some importance to call the attention of the beekeepers to the defects of this method. An apiary where twenty-five or thirty colonies of the same size and the same shape are placed side by side is a danger for the young queens, who are apt to reenter the wrong hive after their wedding flight and thus be killed.

Regarding this mistake in arrangement, Mr. Langstroth wrote: "If a traveler should be carried in a dark night to a hotel in a strange city, and on rising in the morning should find the buildings in the streets precisely alike, he would be unable to return to his proper place only by previously ascertaining its number or by counting the houses between it and the corner. Such a numbering faculty, however, was not given to the queenbee; for who, in a state of nature, ever saw a dozen or more hollow trees, or other places frequented by bees, standing close together, precisely alike in size, shape, color, with their entrances all facing the same way and at exactly the same height from the ground?"

Our old beekeepers have always been in the habit of arranging their colonies in such a way that the bees could recognize their home by something—a difference in outside appearance, color, shape, grass or shrubs growing in the immediate vicinity. So we consider the exceedingly regular arrangement of some apiaries as very great blunder.

## Moisture Absorbents. Sealed Covers

Some people think that the colonies should have sealed covers through which neither air nor moisture will pass. We don't. We have had experiences which demonstrated to us that, if the moisture may be permitted to escape, without the escape of air or without a draft, the bees are better off. During the winter of 1884-5, one of the hardest we ever saw, every colony which had absolutely sealed covers over the cluster suffered heavily, the bees being soaked by the ice melting in milder days from the frozen moisture produced by the bees' respiration. We had on the hives, right over the top of the brood frames, oilcloth covers, some of which were badly damaged, by the bees, which we had neglected to remove. Over these oilcloths we had straw mats, and on top of the straw mats dry forest leaves were packed in the cap of each hive. Wherever the oilcloths had been gnawed by the bees, the moisture had escaped through the straw mat into the leaves, the leaves were wet, but the brood chamber was perfectly dry. The larger the hole in the oilcloth, the more healthy the colony was, for the less moisture had congealed over the cluster. Thus in many cases the brood combs remained perfectly dry and the bees healthy. The more sealed the covers were, the poorer the condition of the bees.

This was a lesson to us. We want absorbents right over the brood chamber. We do not want a draft. We want a warm blanket which allows the moisture to escape from the brood combs, retaining the heat. Since we have had that lesson, we have very few losses in winter, provided our colonies are strong in bees and have plenty of good honey.

## Is It a Hobby?

In our American Bee Journal for November, on page 497, one of our Indiana contributors speaks of the Dadant hive as "a hobby." No! it is not a hobby. The Dadant hive is only a slightly changed Quinby hive. This has been repeated over and over, as Charles Dadant, who adopted it, did not wish to be claiming an invention which he did not make.

Moses Quinby, Hetherington and others were large honey producers, selling honey by the hundred thousands of pounds, at a time when there were but few large honey producers. Mr. Quinby wrote a book, "The Mysteries of Beekeeping Explained." The great advantage of the Quinby frame is that it is some two inches deeper than the standard Langstroth frame and when ordinarily filled by the bees contains about two inches more of honey in each brood comb above the cluster. This enables the bees to winter safely even if they are confined to their combs

without being able to move sidewise in the hive for a considerable length of time. That is what we found out while we were keeping bees in hundreds of colonies in both Langstroth and Quinby frames. Until some twenty years ago, the owners of Langstroth hives had not bethought themselves of using a second story under the name of "food chamber." It has now become quite common to use two-story Langstroth hives in this way. This method is not needed with the standard Quinby or Modified Quinby frame. The latter, which is commonly called "Modified Dadant" frame, is simply a Quinby-depth frame of the same length as the Langstroth.

As to the reason why the standard Langstroth hive is so much more universally used than the Quinby-Dadant hive, it is due to the fact that a patent was taken by Mr. Langstroth before there were any movable-frame hives in the country. Then state rights and county rights were sold and hundreds of traveling agents sold patent rights, farm rights, to owners of bees. Then the factories went into the business of making hives for sale. That is how the shallow Langstroth hive became the "standard" of this country. But the fact remains that the standard or modified Quinby frame has at all times proved better for wintering bees in the northern states than the shallower hive.

So if the Modified Dadant hive is a "hobby," it is a justified hobby and is likely to remain in use.

## Honey for Christmas

Beekeepers overlook a substantial market for their product in the holiday trade. This year practical presents will be very popular. By exercising a little ingenuity in putting up a fancy package with a holiday appearance, much honey can be sold. There are many persons looking for something different, something attractive and something which is inexpensive for Christmas gifts. The volume of candy which goes into the holiday trade is enormous. It is hard to see why the beekeeper has not cultivated this field more generally. Because of its peculiar qualities, honey is a very acceptable gift, and the only reason that it is not more generally used is because there is no attempt to put it up in suitable packages and offer it to the Christmas trade. This is an especially good opportunity to get a fancy price for quality and appearance.

## Outdoor Wintering

Practical beekeepers have not been very enthusiastic about the elaborate packing cases with the heavy expense attendant upon their use. They contend that the expense is not justified by results.

The tar paper wrapping very often proves to be satisfactory winter protection for outside wintering in regions where the bees get an occasional flight. It is cheap, quickly and easily applied, and can be used again if carefully handled.

Much of the experimental work in wintering has overlooked a fundamental factor. The bees very rarely die from cold. They are killed by accumulation of feces when confined for long periods, or they die from starvation when food within their reach is exhausted. It often happens that they will consume all the stores in the combs on which they are clustered, at a time when it is too cold to move over to the next one, and perish with abundant stores but a few inches from the cluster.

The tar paper cover warms the hive quickly when the sun shines on the hive during the middle of the day. Hives with such wrapping often get warm enough to permit the bees to readjust their position, when heavy packed colonies are unable to do so. Tar paper may be insufficient for the far North, but for the Middle West it serves very well. Probably in regions too cold for tar paper wrapping, the bees will winter better in the cellar.

## Living at Home

The present business depression is reviving the old-time manner of living, where the greater part of the food supply is produced at home. The war boom developed specialization to an extent previously undreamed of. When prices were high and demand unlimited, one could profit by devoting his entire time to the production of a specialty. With falling prices the specialist is hard pressed to make ends meet.

A cotton farmer is quoted in a recent issue of "Country Home" as saying that he lives better now than when cotton prices were high. Then he produced only cotton and sold it to buy the things he needed. Now his family produces at home the greater portion of their requirements and it takes but little cash to meet their needs.

The beekeepers who are hardest hit by present depressed prices are the specialists who are far from the market. The beekeeper in the Middle West or the East who keeps cows, hens, a few pigs, and raises a garden, is in much better circumstances.

The man with a cellar full of potatoes, cabbage, carrots and apples, with a freshly killed hog in the smoke-house and eggs and milk coming in every day, does not have much cause to worry if prices are low and jobs are scarce. With hot cakes and honey for breakfast and tender pork and boiled cabbage for dinner, it is hard to be pessimistic about hard times.

## How the Tariff Works

There is an attempt to reduce the tariff of three cents per pound on tomatoes because of the loss of much export trade to Mexico on account of retaliation. It is shown that the United States has lost extensive markets for farm implements, fertilizers, lumber, etc., because of this tomato tariff. The loss of foreign markets is far greater than any possible gain from shutting out Mexican tomatoes. However, no proposal is made to reduce all tariff equally. Rather the manufacturers wish to destroy the protection of the tomato growers.

Tariff always works a hardship on someone, and those who profit do so at the expense of others. "What is sauce for the goose is sauce for the gander" is an old saying of much truth. If manufacturers demand a tariff high enough to shut out foreign competition, the farmer is entitled to equal protection. There is little doubt, however, but that under present conditions we are losing our markets in foreign countries because of retaliatory tariffs. A reasonable reduction in our tariff all along the line would do much to revive foreign trade, open factories, employ labor and start things moving again. However, if reductions are to be made they should apply to all, and not be made at the expense of agricultural products. Readjustments should obtain reductions, as compensation, from other countries.

## On the Air

In turning the radio dial for the evening programs one is reminded of the old-time medicine show. Usually there was a group of colored singers with banjos to entertain the crowd until enough came together to provide a chance for the spieler to be heard. He orated about the virtues of the particular medicine offered until the crowd began melting away and then the entertainers were brought into action again.

If the advertisers using the radio could watch the average listener tune off when the harangue starts, it might make some difference in the manner of presentation. Probably there has never been a better example of building advertising goodwill than the Atwater Kent series of popular musical stars. There was no advertising except to say that it was presented with the compliments of the Atwater Kent Radio. This same series has lost some of its appeal since the announcer has begun advertising for the particular kind of radio.

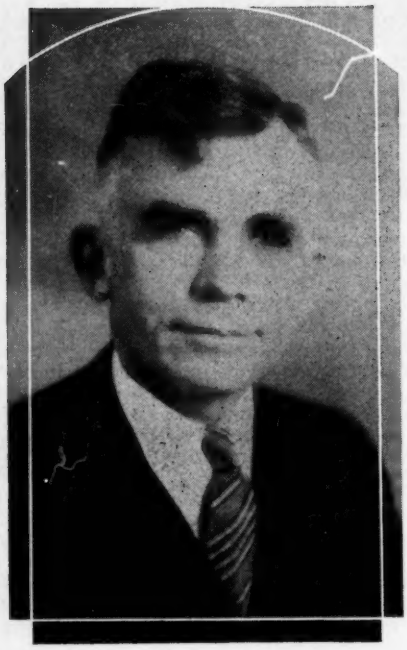
There are many opportunities for representatives of the beekeeping industry to present the case of honey over the air. Great care should be taken to offer only an interesting story about bees and honey and not to leave the impression of propaganda with the listener. There is so much of real interest to be offered that it is unfortunate when the opportunity is spoiled in the way many of the extensive advertisers ruin the effect of an otherwise fine program.

# Our Case Against American Foulbrood

By M. N. Dillon
Michigan

*No other subject in beekeeping commands the attention that is given to bee diseases. At times, it seems almost impossible for a bee magazine to publish anything worth while about them without considerable displeasure from readers on either side of the fence.*

*However, we venture to give here two articles, one by M. N. Dillon, of Michigan, and one by Wilbur Sheron, of Indiana, which voice directly opposite opinions. They represent prevalent beliefs of equal value and they come from two men prominent in our industry and fully alive to problems of our time.*



M. N. DILLON
Michigan

I JUDGE there are still beekeepers who do not believe in burning colonies of bees when they are diseased with American foulbrood. I think we Michigan beekeepers can sympathize with them, for most of us have had our "baptism of fire" and have been "fightin' mad" when we saw our bees and honey go into the flames.

For ten years now our burning law has been more or less rigidly enforced, and as I try now to look back without prejudice over the state I see that those communities which took their medicine and cooperated with the cleanup by fire are living in clean territories today. If a doubtful cell of brood appears, the beekeepers burn it themselves without hesitation and American foulbrood is no longer a nuisance.

On the other hand, those individuals in communities that have insisted on saving bees from the fire have had their bees wiped out by disease or are still shaking them or buying solutions to treat them.

The fact that it has become a general practice among our commercial beekeepers and among most of our sideline bekeepers to burn their own disease themselves as it is discovered, without the interference of the inspector, indicates the confidence that has followed the experiences of burning. A beekeeper said to me recently, "I shook and soaked disease for twenty years and was never free from it until I began to burn."

Fire eliminates the careless beekeeper as well as the disease itself, and one is as great a nuisance as the other. Commercial beekeeping and foulbrood cannot live together. Fire makes beekeeping a safer business both for the commercial beekeeper and for the small beekeeper.

(Turn to page 546)

A diseased yard in Michigan before the clean-up

After the fire had destroyed disease for the season

# Intolerance—Is the Reason

By Wilbur Sheron
Indiana

*Mr. Sheron opposes Mr. Dillon rather forcefully. Some readers will be for one, some the other, and some will straddle the fence. If you have anything to say, we'll open a Forum page for short length replies, but please remember that this should remain a good-natured controversy.*

WILBUR SHERON
Indiana

IN the June number there is an article with the title "Hostile or Fair," on page 266, in which you ask why we cannot discuss American foulbrood just as we discuss marketing, races of bees, or other subjects in our industry, without getting "mad." Your readers will remember the article in which you are called into account by A. S. Millard because he thinks you should publish nothing which is at all hostile to the practice of burning disease when it is found.

This is a very timely question. I want to tell you why the discussion of it makes me mad. I do not get mad literally, but I do get terribly in earnest and quite emphatic. I always get that way when my opponents will no longer reason, and, to my notion, that is just where the apostles of burning are today — at the point where they will no longer reason.

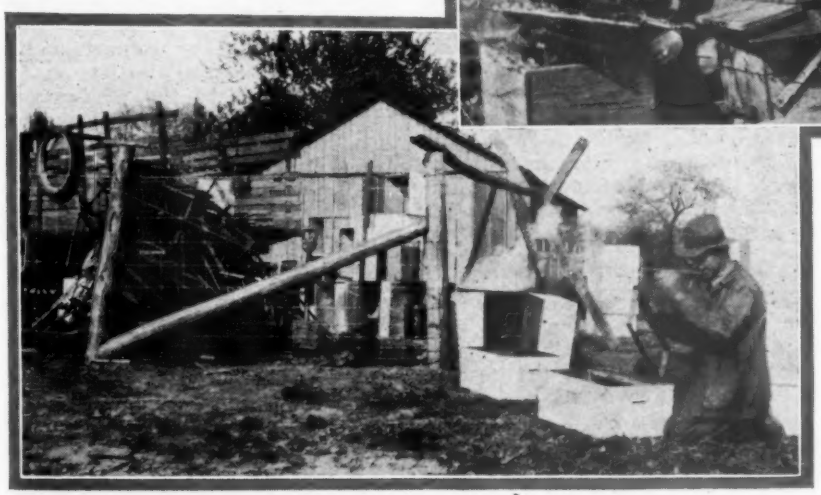
It is my opinion that American foulbrood can be controlled, but that it cannot be eradicated. The history of entomology does not afford a single example of where any pest was ever eradicated when once it has gained the far-flung entrenchment now enjoyed by **Bacillus Larvæ**.

This pest is now as numerous as the bees upon which it preys, so it is foolish to discuss seriously the eradication of **Bacillus Larvæ** at the present stage of its distribution. It would be an act of prudence and wisdom to spend our energy in research for better methods of control.

I have read everything in favor of burning that I can find, and I have ventured into debates with those who advocate this program. I can truthfully and honestly say that I have never at any time found folks more intolerant on any subject.

We often see the statements in our bee magazines that bee disease should not be discussed in public print because it tends to discourage the sale of honey. Hog cholera, tubercular cattle and diseased poultry are freely discussed in the public press, and the public mind is well informed about the prevalence of these diseases. This fact, however, does not change the price of pork or the price of dairy or of poultry products. Why, then, should the discussion of bee diseases counteract the sale of honey? It does not. It has never been proven in a single instance that such discussion ever defeated the sale of a pound of honey.

(Please turn the page)



Colonies like these are surely a menace. What to do? Burn or treat?

Saving the equipment. Boiling the frames in lye water

## Our Case Against American Foulbrood

(Continued from page 544)

It is said sometimes that burning bee disease is advocated by the commercial beekeeper to put the little fellow out of business. This is true only so far as the little beekeeper is the careless beekeeper. But it is true that the small sideline beekeeper is being eliminated by American foulbrood itself and by the same economic changes which are putting all lines of agriculture into the hands of specialists.

Witness the farm orchards which have become so much waste land because the farmer would not fight disease with pruning hook and spray gun. He hasn't the time; he hasn't the tools; he does not know how; he isn't a fruit grower; he buys his fruit of a specialist. This is sound economic practice. The codling moth has got the sideline fruit grower and American foulbrood is getting the farmer beekeeper.

What constitutes a beekeeper, anyway? Surely not the ownership of a neglected box of bees in the weeds back of the barn. The old-fashioned term "Bee Masters" expresses the need of our day.

The saying that "bees work for nothing and board themselves" is responsible for a lot of bees whose owners are not beekeepers and will never learn to be beekeepers. They read no bee magazines, attend no bee meetings; neither are their hives opened unless it is by the inspector, who, under such circumstances, finds disease and spares not the torch.

The case against American foulbrood is much stronger and clearer to me than bovine tuberculosis, in which there is doubt among scientists and veterinarians regarding the reliability of the test. We can see and smell American foulbrood in our own hives. There is no question about its presence. We do not have to take the inspector's word. We can watch it spread and see the colony weaken and die. We can see the robbers spreading the disease throughout our yards and within flying range in all directions.

If the dairyman neglects his fences and his cows get into his neighbor's precinct and contract disease, it is all his own fault; but what beekeeper is to blame if his bees rob a neighbor's colonies weakened by disease?

We cannot win the battle against bee diseases by fighting them on the spot. We need a uniform, nationwide bee disease control administered by the Federal Government. Bees do not recognize state and county lines.

Northern Michigan has American foulbrood licked. It has a water barrier against bees flying in with disease from outside the state. Some of us here in southern Michigan continue to swap disease with northern Ohio or with other counties when local governments who do not believe in disease let their fires burn low.

I do not believe we should be reimbursed by our state for the colonies destroyed. The most profitable sales of cows in many states are the ones that are condemned for T. B. The most profitable sheep we sell in Michigan are the ones killed by dogs. Such a system in beekeeping would put a premium on disease. Why should the beekeeper be paid? The inspector who hunts out the disease in my apiary and burns it is rendering me a service. How much is a diseased colony of bees worth? The bee yard is worth more without it.

Michigan beekeepers are backing a movement to strengthen inspection service and to charge the whole service directly to beekeepers by a tax per colony.

My observation is that most of our troubles with rigid inspection are not due to the system, but to the personal element in enforcement. One inspector comes into my yard and leaves me fighting mad. Another comes in and does exactly the same job but leaves me his friend and a better beekeeper.

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## Intolerance—Is the Reason

(Continued from page 545)

Were too much attention on the part of the public focused on bee disease the public would soon know of the methods used in combating foulbrood, and that is where the rub comes. A tolerant and sympathetic public would never permit the inhuman practice of burning bees even though they had no economic interest in bees whatever.

I do not agree with many of the critics of the burning program that it is being promoted by bee supply houses to further the sale of supplies. This is a day of keen competition, to be sure. The producer of any commodity not only desires to sell his own product, but he also tries to restrict the sale of the product of his competitors. French beekeepers, for instance, being unable to get a suitable restrictive tariff on honey, conceived the idea of restricting all honey imports unless certified as being produced in areas free from American foulbrood. They knew there were few places in the world where honey could be produced entirely free from **Bacillus Larvæ**, and this fact has resulted in a restriction of honey imports far better than the best of tariffs could have done.

German beekeepers were actuated by the same motive of restricting honey imports by other means than through a tariff when they succeeded in getting foreign honey barred on the diastase test. The American beekeeper enjoys the protection of a high protective tariff, but within our own borders domestic production is far above domestic consumption.

And right here is the whole reason, to my notion, for the bee disease burning program. The large commercial honey producers look on it as a way to restrict production by legally supporting the destruction of the property of the small beekeeper under the disguise of disease eradication. They have even gone so far and feel so sure as to state in our bee papers that small beekeepers should be burned out entirely while the larger beekeeper, the commercial honey producer, should be permitted to salvage the bees in his apiaries when they become diseased.

With just a small fraction of the money and the energy now being spent to destroy bees and to destroy bee equipment put to use in legitimate channels of advertising honey, the question of American foulbrood would soon settle itself, for honey would be commanding such a price that no one would want to keep a colony of diseased bees.

Those who support the burning program cannot see this. Rather than spend some of their own good money in this way, they would prefer to destroy property at public expense. Most certainly it would be bad to discuss bee disease in the public press. It would lead the public right up to where they could see how they are paying the bill to promote the economic interest of a few people.

Fire has not eradicated bee disease even though it has eradicated thousands of colonies of bees. If some states are more free from disease than others, it is because those states have more professional beekeepers and less amateurs and sideliners. The latter are naturally more careless, having to divided their time between bees and other occupations. This, and not fire, will explain whatever "clean" areas there may be.

There are many competent beekeepers willing to testify, in fact have testified, to the efficiency of other methods of control in combating **Bacilllus Larvæ**. They do not use fire. But these methods increase the sum total of honey production, and that is the reason, to my notion, why the advocates of burning will not listen to a discussion of anything but fire.

Intolerance, however, never did and never can continue forever. New laws and new conceptions of our treatment of bee diseases are even now in the making and soon the beekeeping world will have swung into the line of progress where it rightfully belongs.

## Is It a New Bee Disease?

By R. B. McCain
California

What has been called "a new brood disease" has made its appearance in some parts of the country, and the Bureau of Entomology is reported to be making a careful study of it. The diagnosis of the new disease is said to be difficult, owing to its close resemblance to American foulbrood. Whether or not a new brood disease has actually made its appearance will have to be determined by experts in bacteriology. But there is nothing new or startling in an announcement of this kind, because the same news has been heralded to the beekeeping world many times before. Neither is there anything new in the statement that there is much confusion in the diagnosis of the diseases. That fact is very well known to every beekeeper who has made a study of the brood diseases that are known to exist.

In spite of the statement that the physical resemblance of the dead brood is very close to that of American foulbrood, and that some apiaries have been found with 100 per cent infection, the comment is made that bees are able to clean up the disease, and that a period of queenlessness with subsequent requeening appears to be beneficial.

Without presuming to go into the merits of this alleged new discovery, it seems to the writer that the announcement and comment are open to serious question. One thing, above all others, is desirable in dealing with brood diseases; and that is, to avoid, as far as possible, any sort of tinkering with infection on the part of those who are not experienced in the handling of diseased colonies.

When an announcement of a new brood disease is broadcast to the world, and the statement is made that it resembles both American and European foulbrood in some respects, and the additional statement is made that requeening the infected colonies is all that may be needed to combat the disease, the door is thrown open to all kinds of trouble.

The sooner the beekeeping world comes to the conclusion that any and all brood diseases should be eradicated forthwith and immediately, wherever and whenever found, the better it will be for all parties concerned. What good reason is there for anyone, except an expert bacteriologist, to try to differentiate between brood diseases? As far as this writer is concerned, no attempt whatever is made to diagnose brood diseases. All diseased colonies are treated exactly alike. The bees are killed and buried when no bees are flying, and the combs, and all hive parts, are thoroughly disinfected. It was not until this method was used that a clean apiary was secured.

## Honey in Frozen Delicacies

By V. G. Milum
Illinois

"Making Frozen Delicacies at Home" is the title of a sixteen-page circular by P. H. Tracy, associate chief in dairy manufactures of the College of Agriculture, University of Illinois.

Your attention is called to this publication because Professor Tracy, after his experiments previously reported, appears to be favorably impressed with the use of honey in ice cream, for he again recommends the use of honey in this publication. We quote the following from the bulletin: "Extracted honey can be used satisfactorily to replace 50 to 100 per cent of the sugar in an ice cream mix, and in these proportions gives so distinct a flavor to the ice cream that a new and pleasing variety is obtained. Since honey is not so sweet as sugar, it must be used in greater proportions. One and one-third pounds of honey about equal one pound of cane or beet sugar in sweetness. However, the specific gravity of honey being so much greater than that of sugar (one gallon of strained honey weighs twelve pounds), it requires only slightly over four-fifths cup of honey to supply the sweetness in a cup or cane or beet sugar."

Under "Variations of Standard Formulas" we find the following: "A very delicious ice cream can be made by replacing the three-fourths pound of sugar in Formula 1 with one pound (two-thirds pint) of strained honey. Vanilla extract should not be used with honey, as these flavors do not blend well; however, some fruits and confections, crushed pineapple and grapenuts, for example, can be used in honey ice cream to advantage."

**Formula 1**

(Plain vanilla, using coffee cream)

2 qts. coffee cream (18-22% fat)
1 tablespoon vanilla
¾ lb. (1½ cups) sugar
1 tablespoon high grade gelatin dissolved in half cup cold water.

Dissolve gelatin in water and heat mixture to about 145° F. for fifteen minutes. Do not heat too high, or the strength of the gelatin will be reduced. Mix cream and sugar. Add gelatin mixture in fine stream, constantly stirring. Add vanilla. (Omit vanilla when sugar is replaced by honey.)

This formula, according to Tracy, will make about five pounds of unfrozen ice cream, or a little over one-half gallon. When frozen there should be between three and four quarts of ice cream, depending upon the amount of air incorporated. Study the steps in making ice cream before using formulas.

Beekeepers desiring a copy of this useful and valuable publication for personal use or for other interested parties should send a request directly to Prof. P. H. Tracy, Dairy Manufacture Building, University of Illinois, Urbana, Illinois.

## Bees in the Berry Field

While varieties of blackberries and raspberries are considered self-fertile, the Michigan Agricultural Experiment Station Quarterly Bulletin, in a report by Johnson, states that some evidence is found that providing for pollen transfer in raspberries is beneficial, resulting both in increased production and more perfect fruits. The report shows that 354 blossoms, or 72.6 per cent, failed to set where insects were excluded, by a cage, from Cuthbert red raspberries, while 147 blossoms, or 34.1 per cent, failed to set where insects were not excluded; 133 berries were reported from this test where insects were excluded, while 284 berries were harvested from 284 blossoms where insects were not excluded.

The imperfect berries from 484 blossoms with insects excluded numbered 57, while the imperfect berries from 431 blossoms where the insects were not excluded numbered 8.

In the case of the Cumberland black raspberry, 18 blossoms failed to set, out of 182, and 164 berries were harvested. There were 36 imperfect berries where the bees were excluded. Where insects were not excluded from 176 blossoms, all produced berries and there were only three imperfect ones.—From Better Fruit, May, 1931.

## Honey for Athletes in Training

Many a time I have been given the laugh for advising an athlete to take a teaspoonful of honey instead of the cube of sugar he was munching. His coach or trainer or a friend would advise sugar for energy previous to the race. I have lived to see the day when the medical doctors are no longer laughing at a former Chester County (Pennsylvania) farm boy for advising them in their college days to eat honey, but I find they are advising its use. Summed up, honey previous to a race creates a reserve strength. After a race, after a gargle to remove mucus, I give another teaspoonful of honey to create renewed energy.

W. Craig, Pennsylvania.

Spreading poisoned bran mash around stack, from back of truck

# How Grasshoppers Help Reduce the Honey Crop*

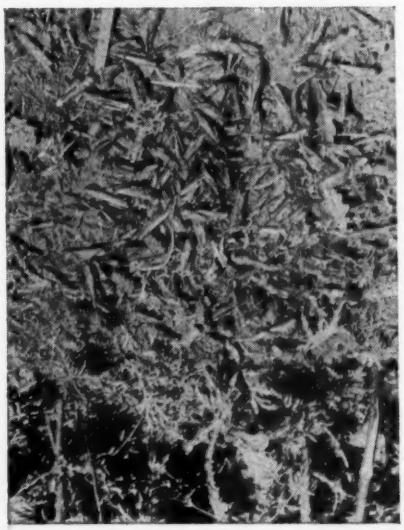
By R. A. Grout and George C. Decker
Iowa State College

BEEKEEPERS and others, directly or indirectly dependent on the products of the soil for their livelihood, for a long time have blamed "Old Man Drouth" for their crop failures, overlooking or neglecting other unfortunate circumstances which contribute to crop failures during dry years. Thus "Old Man Drouth" gets all the blame, and, although often deserving of it, is usually credited with too much of the "worst of things."

At the start of the 1931 season, beekeepers of northwestern Iowa enjoyed one of the best honeyflows they had experienced in years. Then warm weather came, accompanied by dry, hot winds, and the flow was diminished to an alarming extent. Some of these beekeepers have since been forced to move their bees to neighboring territories and some have had to sell their bees. This experience has probably been repeated in other states.

The writers were privileged during the latter part of July and August to make a survey of the situation in Pottawattamie, Harrison, Monona and Woodbury counties in connection with grasshopper control work carried on by Iowa State College under the direction of Dr. C. J. Drake, state entomologist of Iowa. At that time extensive grasshopper damage to alfalfa and sweet clover was observed in certain areas and the writers began to investigate the relationship of this damage to honey production in that part of Iowa.

Grasshoppers, or locusts, as they are frequently called, have been increasing in numbers during the last three years. Mild winters and hot, dry seasons have favored their growth and development until they are now a serious pest in certain localities and threaten to become serious in others. The condition in Iowa is spotted, with the most serious damage to crops being reported in the counties mentioned along the Missouri Valley in the western part of the state. Reports from county agents show that twenty counties have experienced damage due to these insects and that in eleven counties the infestation has been serious enough to necessitate immediate control measures.



Dead grasshoppers under weeds, killed by honey bran mixtures

A similar situation exists in North Dakota, Minnesota and Nebraska, with conditions in the latter state being even worse than in Iowa. South Dakota, of course, has by far the worst infestation, and in the vicinity of Hamill, Winner and Dixon thousands of acres were completely devastated by the hordes of hoppers. Assuming that the grasshopper is doing serious damage to alfalfa and sweet clover in these five states, it is of extreme interest to note that they comprise the greater part of the sweet clover region of the United States.

Several species of grasshoppers are present in the areas mentioned. The hoppers doing the most damage and in order of their economic importance are: The differential locust, **Melanoplus differentialis,** a large, yellow-green form which can be distinguished by the herring-bone markings on the femur of the hind or jumping legs. The red-legged grasshopper, scientifically named **Melanoplus femur-rubrum,** smaller than the differential locust, **Melanoplus bivittatus,** a large form having two yellow stripes running lengthwise down its back. The roadside grasshopper, **Dissosteira Carolina,** named after its instinct to inhabit dusty places such as the roadside and when in flight can be recognized by the black and yellow color of its hind wings.

All these species are native to the infested territories and are not migratory, as were those hoppers that caused damage years ago and blackened the sun by their numbers in flight. The species that are common have been living and breeding in these areas for many years, but during the last three years they have found conditions so favorable for their growth and development that they have increased in numbers to the point where they rank as serious pests.

All the grasshoppers named have but one generation a year. In late summer and fall the females deposit their eggs in pod-like masses in firm, compact soil like that found in pas-

* Journal Paper No. B9 of the Iowa Agricultural Experiment Station.

ture areas. Each pod-like mass contains from twenty to one hundred and fifty eggs (depending on the species), and several egg masses may be deposited by a single female. The adults of these destructive species do not live through the winter, but the eggs survive and in early spring they hatch into tiny grasshoppers.

The young hoppers somewhat resemble the adults, except for size and the absence of wings. After feeding for about seventy to eighty days, during which time the nymphs moult several times, the adult grasshoppers appear with fully developed wings. The adults continue to feed and deposit eggs until killed by cold weather in the fall.

The food of the grasshopper consists largely of green vegetation, although they have been known to eat clothing, and even wood, when saturated with body perspiration. The plants preferred and those which have suffered the most damage in highly infested areas are mustard, Indian hemp, sweet clover, alfalfa, certain cereal crops and corn. The order of preference for these plants has not been very carefully worked out, but it is safe to say that alfalfa and sweet clover stand very high in the list of preferred food plants.

The large nymphs and the mature hoppers were found most numerous in alfalfa, sweet clover and small grain fields located near permanent pasture areas. They had evidently hatched and begun their development in the pasture, fence rows and other favorable breeding areas, and then migrated to the sweet clover and alfalfa as a better and more succulent source of food. They had eaten the leaves and tender shoots, the buds and blossoms until in some cases the plants were entirely stripped of foliage and robbed of their chance to produce seed. The hoppers had such ravenous appetites that many plants were girdled and barked and plants soon died. In cases where the farmer had cut his crop the hoppers were often so numerous that they devoured every new bud and shoot until the plants eventually died and the field was left barren of green vegetation.

Fencerow sweet clover stripped of its leaves, barked and killed by hordes of grasshoppers

To cite a specific case, a twelve-acre field of sweet clover three miles east of Sargent Bluffs, in the vicinity of Sioux City, was totally destroyed by grasshoppers. The farmer had left the clover for seed, but the grasshoppers so completely stripped it of foliage and bloom that not a single seed could be found in the entire field. From the sweet clover the hoppers migrated into corn, completely destroying fifteen acres of a thirty-acre field and seriously damaging the remainder.

A similar situation was found on the David Seabloom place just west of Missouri Valley, Iowa, where hoppers had migrated from pasture to sweet clover and then to the corn and alfalfa. Here the farmer was forced to turn his stock into the field so that he might realize some profit from his planting. Several orchardists in the vicinity of Mondamin, who experienced hopper injury to young apple orchards, reported that orchards in sweet clover sod were most severely damaged.

There is no question in the minds of the writers and others who investigated the grasshopper damage in the western part of the state of Iowa that sweet clover and alfalfa suffered severely. Dr. Drake, state entomologist, said: "Alfalfa suffered the most damage this year, but that was largely due to the fact that alfalfa was more abundant than sweet clover in the infested areas."

It cannot be denied that the drouth during the past few years, and particularly during the summer of this year, has greatly reduced the honey-flow, but also it cannot be denied that grasshoppers contributed to this reduction. Even though alfalfa and sweet clover were destroyed and most of the damage attributed to drouth, yet, as late as August 22 of this year, it was possible to find numerous areas where the grasshoppers were not abundant, in which a large percentage of the plants were green and carried an average crop of blossoms upon which the bees were working.

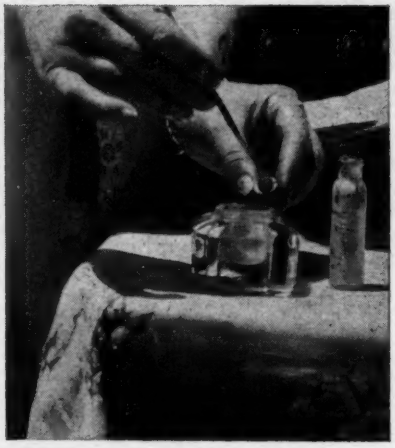
In fact, various places were found along highways and ditch banks where sweet clover, located near pasture land and other favorable breeding places for the hoppers, was brown and dead, while plants only a short distance from pasture areas would be

(Turn to page 564)

The 30-acre field, near Sargent Bluffs, where grasshoppers migrated to the corn after finishing the 30 acres of sweet clover at the right

# Securing Queen-Cells in the Rauchfuss Queen-Rearing System

By C. L. Corkins
Wyoming



1. Filling the cell with jelly.

THE queen-cell cup used by Mr. Rauchfuss is shown, with the cell in place, in the first picture, which also shows how the bottom of the cell is filled with royal jelly on a small brush. These cell cups are fashioned out of wood by a specially designed power-driven tool constructed by Mr. Rauchfuss. They are shaped to fit in the queen cup holders and are hollowed at one end, with a flange of thin wood projecting over the edges at the other end.

The cupped-out portion is shaped to receive the base of a queen-cell, which fits in snugly and is fastened securely with hot beeswax. I find it hard to describe these cups properly, but the picture will help you to understand them. We bought the cups, and other special equipment for this system of queen-rearing, through the Colorado Honey Producers' Association at Denver. I presume others may get them there, too.

The second picture shows Mr. Rauchfuss' daughter, Belle, transferring a larva to a queen-cell. Belle is the queen breeder of the family, since it takes the delicacy of a woman to excel in this branch of beekeeping.

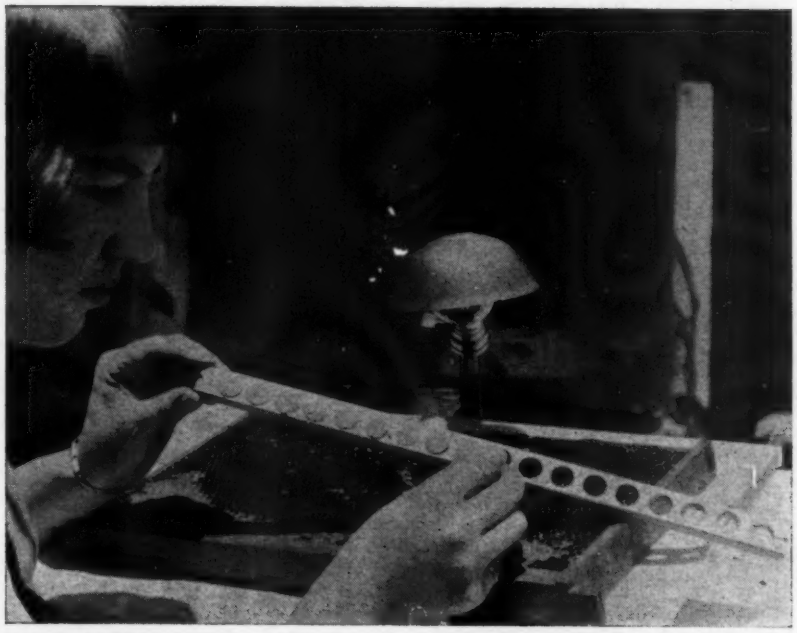
The queen-cell bar, shown in the third picture, is made to receive eighteen of the queen-cells. In grafting, I set aside eighteen cells, transfer the royal jelly to them, then transfer the larvæ and slip the cells into a bar. If there are many to be done, the bars of cells are wrapped in damp cheesecloth to keep the jelly from drying. You will note that the base ends of the cups are flanged to keep them from slipping through the holes in the bar. The cell end of the cups fit flush with the bottom side of the bar, with the queen-cells projecting outward.

The bars are made just the right length to fit in a standard Langstroth frame. The fourth picture shows how notches are made on the inside of the end bars of the frame to receive the cell bars. Sheet metal may be nailed on one side of the notches so that the bars may be handled in the frames more easily.

The frame in this picture is made with a feeder, too. The feeder is not always necessary, but may be used. We made our frames without the feeder and to receive four cell bars. This number nicely fills the frame so there is little room for burr-comb, which is often a problem in handling queen-cell bars. The feeder shown, in the fifth picture, may be used together with the swarm box which Mr. Rauchfuss employs.

However, we have discarded the swarm box almost entirely and use a combination queen-cell starting and finishing colony like that described by Jay Smith. We use a Boardman entrance feeder, and sometimes place

2. Belle Rauchfuss grafting larvæ into the prepared queen-cells.



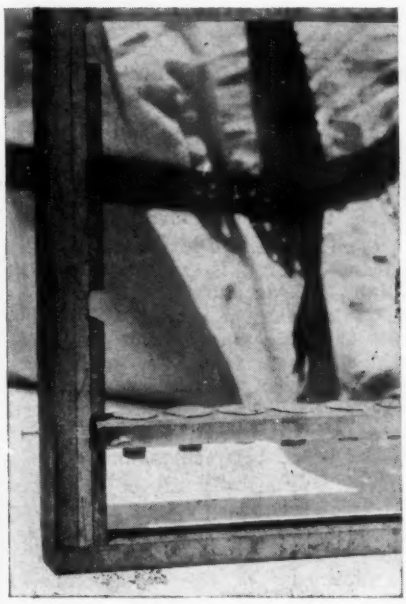
3. Putting the grafted cells into the cell bars. Flanges hold them in.

a feeder on top of the colony if the weather and honeyflow conditions are not good.

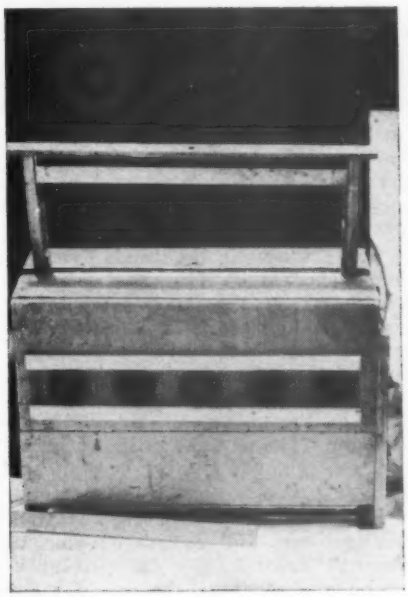
The fifth picture shows the kind of swarm box Mr. Rauchfuss uses and the method of placing the frames in the box. It also shows the more usual type of sheet metal feeder he uses, which leaves room for four queen-cell bars.

One of the handy features of this box is the method of getting the queen-cells into it without losing the bees. The escape of bees as frames are introduced is one of the annoying parts of getting grafted cells into swarm boxes. You will see that the bar which closes the opening into the swarm box is pushed off by the bottom of the frame. (No. 6.) Then, as the frame with the first bar of grafted cells slips into position, nails at either end, loosely fitted into the frame, hold the frame to the position of the bar. Then as another bar of grafted cells is ready it is slipped into the next set of notches, the nails are set into the ends of the frame opposite the new bar and the frame dropped to its next position, without losing a single bee. Figure four shows the position of the nail which holds the frame to its place.

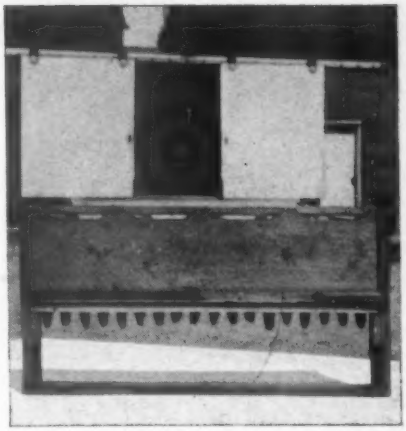
The feeders used are automatic, as shown in the eighth and ninth pictures. A quarter-inch metal spout is soldered into the lid of a fruit jar. This projects through a hole bored to fit into the top of the frame which holds the bars. This spout reaches just below the edge of the metal frame feeder and maintains the level of the syrup in it, in the same way as the automatic water containers used for watering chickens.



4. Bar in slot and nail in place to hold frame in swarm box.



5. Frame in swarm box, held by end nails while another bar of cells are being grafted.



7. A bar of good queen-cells. Note how the bar is held in notches in end bars of frame.

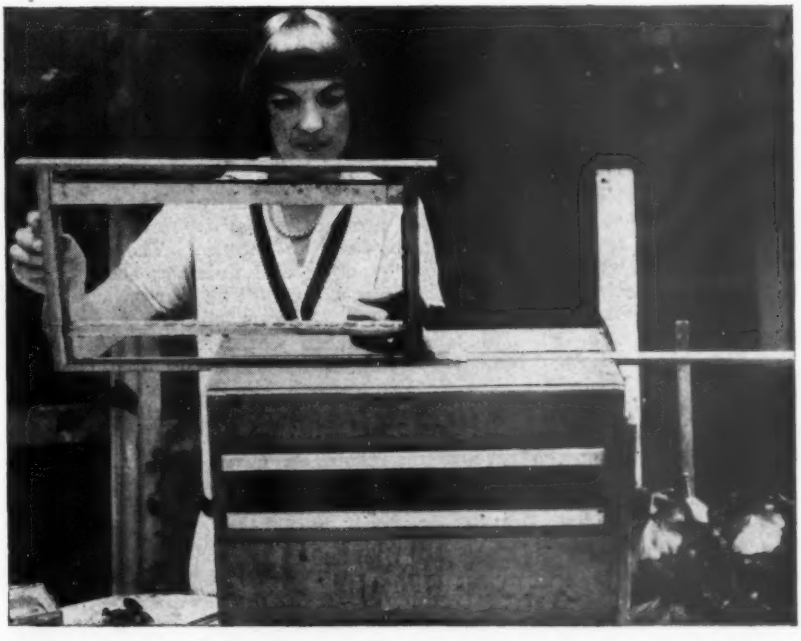
In the tenth picture I wish to call attention to the handy way of filling the swarm box with bees. Of course, the box is crowded with them, using four or five pounds of young bees, taken from colonies preparing to swarm or just ordinarily strong colonies, during the day when field bees are out, making sure that no queen is gotten into the box.

Secondly, it will be noted that a great amount of ventilation is provided. The bottom of the box is screened over entirely and sets up on blocks, to allow free access of air. Then, upward ventilation is provided by placing screen on either side of the box. Naturally, the box is kept in a cool, dark place while the cells are being started.

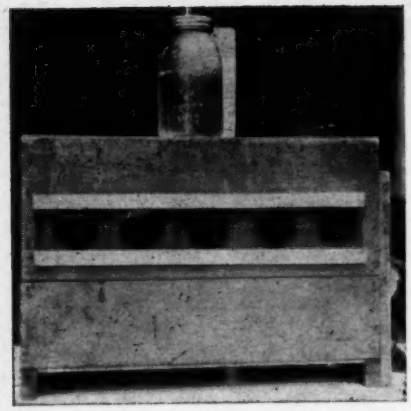
Mr. Rauchfuss tells me that he makes use of colonies "ready and willing" to swarm, for the building out and finishing of queen-cells, about as often and as much as he uses the swarm box. With the swarm box two manipulations are necessary. The cells are simply started in them, and, after about thirty-six hours, they must be removed and placed in a finishing colony until they are "ripe," or capped over. A strong colony that is starting queen-cells will do both of these jobs reasonably well in one operation.

I mentioned previously that we used a combination starting and finishing method. Perhaps the description of this will be timely. It may be used in some variation by a good many queen breeders.

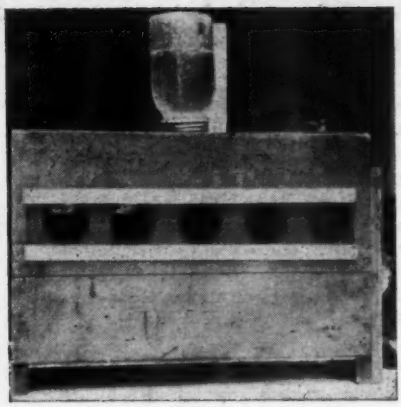
In the first place, colonies given to swarming should be chosen. We use the Carniolans for this and have found them satisfactory.



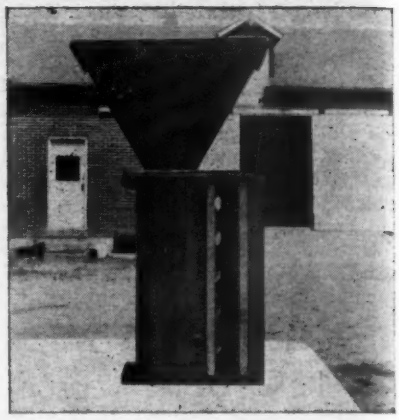
6. With the frame the hole closer in swarm box is shoved off. Few bees can come out.



8. The quart feeder. Note spout at top. A frame feeder shown in pictures 5 and 6 receives this quart reservoir.



9. Feeder in place, allowing syrup to pass by gravity and air pressure into frame feeder.



10. The funnel for filling swarm box with bees.

Preparations are made twenty-three days in advance. At the beginning, eight good frames of brood are added from strong colonies around the apiary, with no particular attention to age. The queen is given free run of two brood chambers making sure there are plenty of good combs for brood available to her. One or two supers, over a queen excluder, are provided to give plenty of room and to check preparations for swarming at this stage of the procedure. Feeders are also given and food is kept available at all times in case of any reverses in the weather or any slackening of incoming nectar.

Ten days later ten more frames of brood are added, this time sealed brood largely. It is a surplus of young bees and a creation of the swarming impulse that we are after, and it is now too late to get the bees reared through from the egg or larval stages.

Also at this time six frames with eggs and young brood are removed from the brood chamber and placed immediately over the queen excluder, this being the third hive body upward. At the time the queen-cells are introduced we want brood frames with only sealed brood or advanced larvæe in them, and this provides them. In getting these frames out, we shake the bees into the bottom hive body so as not to lose the queen, or remove her with the brood.

In about six or seven days after this the brood placed above the excluder should be looked over for queen-cells, which are cut out and the royal jelly saved for grafting later. Also, at this time it is wise to look for queen-cells in the brood nest, as well, and cut them out if there are any. Another super may also be needed to relieve the congested condition of bees, and hold off, just a little longer, too great an urge for swarming.

Then, just three days before the use of the colony for the reception of the grafted cells, a rather radical operation is performed. The colony is heavy with bees and may be preparing to swarm. If so, it is all the better. We want the bees to feel just that way about it and will encourage this condition. Of course, if cells are actually present they are cut out, saving the royal jelly for grafting.

The colony usually stands five hive bodies high now, two bodies in use by the queen, three above the queen excluder. The first of those above contains the six frames of sealed brood. It is removed, bees and all, and set on a new stand just to the back of the parent colony. The remaining four frames without brood are also removed and the bees shaken back into this new, secondary colony.

In their place four frames with young brood and eggs are given to the new colony from other colonies in the yard, each one being separated from the other by one of the frames of sealed brood. Then an empty hive body is set on top of the new colony and the bees from another of the supers above the excluder on the parent colony are shaken in. This now makes a one-story colony brimming full of bees, but queenless. It will start many queen-cells and the nurse bees will be secreting royal jelly abundantly just as we want them to do.

Next, the parent colony is reduced to two hive bodies, crowding it and causing preparations for swarming, which is also just what we want. The precaution of seeing that there is plenty of pollen in both colonies is always taken, though this ordinarily is not a problem. Both colonies are still provided with feeders.

In the morning of the day of grafting, which is three days later, the final preparations for the reception of queen-cells are made. Royal jelly is again taken from the queen-cells removed from both the secondary and the parent colonies, thus providing enough for grafting.

During this process of going over the parent colonies for queen-cells one will be looking for the queen, too. This is usually the hard part of the whole task, but she must be found and caged.

When she is safely caged, remove all frames with eggs and young brood from the **parent colony.** Shake the bees in front and put the empty combs in an empty hive body.

Each of the two hive bodies of the parent colony is reduced to five combs, two on one side and three on the other side of each body. Then, into each are placed three combs of sealed brood **from the secondary colony,** spacing them so that two frames of cells may be introduced into each hive body, with a comb of sealed brood between them.

Next, practically all of the bees from the secondary colony are shaken at the entrance of the parent colony, leaving only a pound or two with it to take care of the brood and old queen which is given to it. This leaves the secondary colony with the old queen in a weakened condition for the time being.

Another important matter must be attended to on the parent, or what is now the cell-starting colony, and that is the placing of a queen excluder on top of the bottom board, to prevent a virgin finding her way into the now queenless colony. Feeders are still provided.

Thus, queen-cells are readily and prolifically built under an actual swarming impulse. The combination starting and finishing colony is in a superb condition for swarming. It is badly crowded with bees with no room to work; it has an over-abundance of young or nurse bees; it is queenless; the nurses are secreting an abundance of royal jelly.

When everything is ready, four frames of queen-cells per colony, or 288 individual queen-cells, may be added. If even a third of these give nice, large cells, it is a good yield and quite usual. The nice feature is that the queen-cells may be left in the hive until they are ripe and ready to transfer to queen cages or to put directly into mating nuclei.

From the Swiss Bulletin of Apiculture. A meeting of beekeepers at the Centennial of the death of Huber. Two of the ladies in the center are his descendants. He died September 21, 1831.

# The Centenary of the Death of Francis Huber

By Louis Roussy
(Translated from the Rucher de France)

> The practice of the art of beekeeping is not learned in a day; this art, like the other arts, requires apprenticeship.
> F. Huber, 1802.

IT is now a hundred years since the death of this genial observer of bees, the real founder of modern beekeeping, whose name shines in modern beekeeping since a hundred years.

Francis Huber fulfilled his task with the praiseworthy modesty which characterizes the full-hearted men. His great work was never surpassed; it is even now causing wonder, in the present generation, accustomed however to wonders in beekeeping. His experiments upon the habits of bees are of irresistible charm.

Loyalty was one of the qualities of this writer, who left to his predecessors all the credit to which they were entitled. In spite of his frightful infirmity, he spread around him an atmosphere of gentleness and kindness. This genial blind man peaceably made the apprenticeship of night.

The discoveries of this illustrious man were not appreciated as they deserved to be by his contemporaries. They disbelieved and criticized him. His writings were considered as only ordinary natural history studies. It took another great man to put his writings within the reach of the average beekeeper. Ed Bertrand, of Switzerland, became his enthusiastic historian and sought for further documents both in Switzerland and in other countries. He published the "Unedited Letters of Huber" found in the archives of the families of De Molin and of Watteville. These letters have thrown a bright light upon the discoveries of Huber. They are a real treasure. (The translation of these letters was published in the American Bee Journal in 1921-1922.)

F. Huber was born in Geneva, Switzerland, July 2, 1750, in a very respectable family, in which, says De Candolle, the vigor of mind and imagination seem to be hereditary. His father, J. Huber, a celebrated painter, had the reputation of being one of the brightest men of his time and was often cited by Voltaire.

J. Huber transmitted a good part of his tastes to his son, Francis, who himself handed over a large scientific ability to his own son, Pierre, the latter publishing, in 1810, a book entitled "Researches on the Habits of Ants."

While quite young, F. Huber took a course in physical science with the illustrious De Saussure. He already had a great admiration for natural sciences.

At the age of fifteen years his health and his eyesight became altered, owing, it was said, to his intense studies. His father took him to Paris to consult with Tronchin for his health and Veuzel for his eyes. They advised him to remain at Stains, near Paris; this did him some good, for his health was reestablished. He led there the life of a peasant and retained from this stay an imperishable remembrance.

As regarded his sight, the oculist Veuzel decided that there was no help for it and that it was too late for an operation. Thus began the sad life of Huber.

At seventeen, having still a little sight left in his eyes and having met the eyes of Marie-Aimee Lullin, daughter of one of the syndics of the republic, they fell in love with each other, in spite of the difficulties which their love encountered. Marie resisted the opposition of her parents and waited till she was twenty-five years old to unite herself freely to the blind man whom she had promised to wed in spite of his great infirmity.

De Candolle wrote that Mrs. Huber showed herself worthy during the forty years of this union, through the great cares that she lavished upon her husband. F. Burnens helped her in this work. Huber often said: "Thanks to her, I have not perceived the wretchedness of being blind."

This touching union was cited by celebrated people. Madame De Stael, in "Delphine," gave the Belmont couple as an instance of the sublime abnegation witnessed in the life of the Huber-Lullin couple.

The great Huber preserved his admirable talents to the end of his life. He wrote these great words to a lady friend: "There are times when it is impossible for one to remain with folded arms. It is when, by spreading them a little, one can tell to those whom one loves how much esteem, tenderness and gratitude they have caused in oneself."

Huber died peaceably in the home of his beloved daughter, Mrs. de Mallin, in 1831, at the advanced age of eighty-one years. This great artist had an artist's sensitiveness and a divine inspiration. Science, literature and poetry as well as music were very familiar to him.

Huber caused to be read to him the writings of the naturalist who later

became his friend, Charles Bonnet, of Geneva (1720-1793), author of "Considerations sur les Corps Organises" and of the "Contemplations de la Nature," also the writings of the French naturalist, R. F. De Reaumur (1673-1757), author of the celebrated "Memoire Pour Servir a l'Histoire des Insectes."

He found in these works the inspiration he needed to put his work forward. Things that had escaped the observations of Reaumur and Bonnet were discovered by Huber, who thus perceived some of the great mysteries of beehives.

Huber found, in his man-servant, F. Burnens, a worthy co-worker, who was notable for his sagacity. He became "the eyes" of the unfortunate blind man who trained him in the art of observation. Burnens was not only an intelligent man, but he was gifted with great tenaciousness. He watched a lot of suspected laying workers for twenty-four hours without taking either food or rest, in order to ascertain whether they would lay eggs. At another time he watched the bees of several hives for eleven days consecutively.

The first edition of "New Observations upon Bees" appeared in 1792 at Geneva. A reprint was made in Paris in 1796. These editions were quickly exhausted and in a letter from Lombard, author of the "Manuel des Proprietaires d'Abeilles," he was asked to publish a new edition in 1812. This was done in 1814.

Lombard was the first to try Huber's leaf hive and he heartily praised this invention and expressed his pleasure in using it, especially with glass sides, as an observation hive. This was the primitive style of movable comb hives.

The origin of beeswax was at that time a much debated question, although some naturalists already claimed, without proofs, that it was made out of honey. Huber, by his experiments, proved it definitely. The works of Huber upon the production of beeswax were entered in the annals of the British Library in 1804, under the title, "First Memoir upon the Origin of Beeswax."

Most of the academies of Europe, and notably the Academy of Sciences of Paris, admitted Francis Huber among their members. His discoveries attracted attention through his rigorous exactness and through the wonderful difficulties which he had overcome with so much talent.

It was Huber who demonstrated that the queen is oviparous. He showed the influence of the size of the cell upon the insect. He gave the first natural history of swarming. He proved that the use of the antennæ enables the bees to recognize one another. He described the building of peculiar structures of propolis by them in the protection of their hives against the Sphynx atropos, or death's head moth.

Among the methods that Huber had planned to ascertain the conditions of the air in beehives was that of placing some seeds in the interior, under the suspicion that seeds did not germinate in an atmosphere too much deprived of oxygen. His experiments on this matter in collaboration with Sanchier were published in Geneva in 1801, under the title, "Memoir upon the Influence of Air on the Germination of Seeds."

Francis Huber made the most beautiful and most valuable discoveries upon the life of bees. His work and that of his faithful co-worker, Burnens, are a gigantic monument reared to the glory of the honeybee.

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By N. N. Dodge

### Jack Hamann Marries Florence Buckingham

Announcement of the marriage in September of Mr. C. E. (Jack) Hamann, manager of the Seattle branch of the A. L. Boyden Company, comes as a surprise to Mr. Hamann's many friends in the Northwest. Miss Florence Buckingham, of Seattle, and Mr. Hamann were quietly married at noon, Mr. Hamann returning to work as usual after the lunch hour. Several weeks passed before news of the marriage leaked out.

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### Stewart on Trail of Honey Jelly

Traveling in the interests of fruit pectin for making jellies in general and honey jelly in particular, Mr. E. W. Stewart, of the E. W. Stewart Company of Chicago, with Mrs. Stewart, made a long trip through the Northwest and Southwest during the fall months. Leaving Chicago on September 24, Mr. and Mrs. Stewart visited Davenport, Omaha, Denver, Colorado Springs, Cheyenne, Salt Lake City, Boise, Pendleton, Walla Walla, Spokane, Seattle, Portland, San Francisco, and Los Angeles. They returned through Arizona and New Mexico. Mr. Stewart is especially desirous of interesting bakers in the use of honey jelly for jelly rolls and other pastry desserts. He spent much of his time while in the cities along his route visiting commercial bake shops, pointing out the superior qualities of honey jelly and of his pectin and pectin stock, and showing bakers how easily honey jelly is made. Mr. Stewart reports a very interesting trip, with a favorable reaction from many of the bakers visited.

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### Sippel Finally Gets Out of Montana

Prof. O. A. Sippel, state apiarist of Montana and professor in Montana State College at Bozeman, drove through to Ontario, Canada, early this fall. We went to visit his old home and to get his wife, who spent the summer in Ontario. On their return trip the Sippels stopped to visit many beekeepers along their way, among these being Mr. Ralph Smith, of Amenia, North Dakota, president of the Mountain States Honey Producers' Association.

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### Joubert Enjoys Feeding the Bears

Julian Joubert's bear, previously mentioned in this column, still roams the wooded hills near Enumclaw, Washington (he will probably be in hibernation by the time this is printed), well fattened with honey from Joubert's apiaries. During the autumn months the bear learned many little tricks about beekeeping, according to Joubert, or else learned the folly of destroying whole colonies. He found that by knocking off the hive covers and inserting a claw beneath a top bar he could lift out the frames without all the trouble of smashing up the supers. Joubert's only criticism of his behavior is that he consistently refuses to pose to be shot.

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### The "Liquiteria"—Know What 'Tis?

Seattle, Washington, has the distinction of supporting the first "liquiteria" in the Northwest. This peculiar type of food dispensary is located in the Security Market. Every kind of syrup, salad oil, honey, cider, fruit and vegetable juices and numerous other fluid foods are sold in bulk at this unusual store.

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### Paralysis Hits Nevada Bees

Nevada beekeepers report serious loss this past season from a disease resembling both Nosema and bee paralysis. Farmers in the Carson Valley report that thousands of grasshoppers in that district were dying from a form of paralysis in October. Some Nevada ranchers have even suggested that there is some connection between the bee disease and a mysterious malady which is affecting their horses, some of which have died

with paralysis, symptoms of which are very similar to those displayed by bees afflicted with the prevalent malady.

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**Daniel Wurth Ill**

On October 14, Mr. Daniel Wurth, of Wapato, Washington, was reported as being seriously ill in a Yakima hospital. Mr. Wurth pioneered beekeeping in central Washington and has long been a leader in apicultural activities in the state. At the time of writing, no further reports of his condition had been received.

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**Prophets Say Hard Winter in North**

British Columbia weather prophets predict a hard winter for the Canadian province. According to old-timers, the three B's—the bees, the bears, and the beavers—all conducted their autumn activities in the manner always followed preparatory to a long, cold season.

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**Heavy Volume in Package Honey**

The Pacific Slope Honey Company, of Seattle, reports the heaviest volume of packaged honey business during October since the fall of 1929. October 1931 sales, measured in pounds of honey moved, were the third largest of any month since the company was established, in April, 1928.

## Here Is a New Deal to Present to Your Fruit Growing Friends

Reporting on the season with bees in the orchards of the Burton Fruit Company, Indiana, the suggestion is made that "New bees from the South are given to neighbors to put in hives, let remain in orchards during the bloom, and bring them back next year free of charge. It is a good deal for both the fruit grower and the beekeeper." This is a new suggestion and may be a profitable one for many of our readers to take up with their fruit growing friends.

Going on with the report of the season, the letter continues: "We had about two hundred stands of bees in the orchards this year. We had forty-five and bought twenty out of Georgia. In addition, we hired a large number brought in at $2.00 a colony. Fine weather enabled the bees to do good work and we feel that they did valuable service

"Following the 1930 dry year, we feared weak blossoms and a poor set, but we sure have a fine set and it is costing us a plenty to thin. However, we prefer a heavy set and have to thin rather than to have a poor set. We believe in bees and expect to have not less than two hundred stands next year."

Burton Fruit Company,
Indiana.

# From the Little Blue Kitchen

## *This Year's Christmas Gifts*

It long has been the custom
For folks at Christmas time
To send each other presents
With "cards" in prose or rhyme;
To wrap each gift in tissue
And tie with ribbons gay
Of green and cheery scarlet—
In honor of the day.

But all of this costs money,
And now that cash is rare,
Some people are unhappy,
Quite weighted down with care,
Because they cannot purchase
Gifts of intrinsic worth,
To send to friends at Christmas
To honor Jesus' birth.

But if they would remember
That God's gift from above
Was one no coin could purchase—
A gift of Heavenly love!—
Then would all send at Christmas
Sweet love with words of cheer,
Assured that friends would cherish
Such gift than all more dear.

Lida Keck-Wiggins.

* * *

THE woman who lives on a farm or elsewhere where there are bees may make a lot of "town" or "city" friends happy at Christmas by a little gift of honey. This can be put up so attractively that it will have a genuine holiday air about it.

Out in the fields, especially this year, are a good many red berries of various sorts—barberry, bitter-sweet, rose seed-pods, and the like. And always there are pine, cedar or other evergreens available. Those living among these lovely free gifts of nature will know where they can find "home-made" reds and greens for Christmas. Then why buy holly from the South? It's lovely, but when money is scarce and there is a substitute at home, common sense says use it.

Then—the honey. Many a larder always likes to boast of two or three jars of this nectar of the gods, and how delightful to receive a gift of one or two containers of honey at Christmas.

After the honey is in its jar—even a plain everyday Mason or one of the glass-topped variety will do nicely, though of course there are fancy containers to be had if one wishes to spend ANY money on them—then wrap the jar in one or another of the pretty, cheap papers to be found in the 5 and 10's, and even if you cannot afford ribbon you possibly can manage a ball of either green or red twine, and with this tie a little bouquet of the home-field "red and green." The result will be exceedingly satisfying and attractive and, above all—Christmassy!

Where there are bees, and honey "to spare," Christmas gifts of honey candy would be wholly possible and certainly very acceptable to friends not so favored.

From Asa Merriam, a practical and also a very generous beekeeper of Clark County, Ohio, Honey Lady received these recipes for honey candy, which are being passed on as all blessings ought to be, incidentally! These recipes having been frequently used by Mr. Merriam's fascinating little English wife, may be used without any doubt as to the outcome.

Before giving the recipes, which he does to the public in a neat little folder bearing the picture on its front page of a comb of honey on a dinner plate, Mr. Meriam says: "You call your wife, your child or your lover 'Honey' because the word is the symbol of the pure, the sweet, the wholesome!"

Here are the recipes:

**Nougat**

⅜ cup honey — 1 lb. almonds
½ cup brown sugar — 2 egg whites

Boil the honey and sugar together until drops of the mixture hold their shape when poured into cold water. Add the whites of the eggs, well beaten, and cook very slowly, stirring constantly, until the mixture becomes brittle when dropped into water. Add the almonds and cool under a weight. The candy can be broken into pieces or may be cut and wrapped in waxed paper.

**Honey Fudge**

2 cups sugar — ½ cup water
1/3 cup honey — 2 egg whites

Boil together the sugar, honey and water until the syrup spins a thread when dropped from a spoon (about 250° F.). Pour the syrup over the well-beaten whites of the eggs, beating continuously, and until the mix-

(Continued on page 569)

At thirteen months

# Hazel Jean, Our Honey Baby

By Mrs. E. G. Stonex
Michigan

Having just read the article, "The Wonderful Results of a Magnificent Experiment," by R. B. Willson, in the September number, I thought you might be interested in our experience. Here are two pictures of our little daughter, Hazel Jean. She was born prematurely, weighing 3¼ pounds at birth. The doctor prescribed a formula including dextri-maltose, but recommended honey also. As she grew older the honey was increased and the dextri-maltose decreased until she was getting only milk and honey.

Her growth was slow until she was on the milk and honey diet, when she began to gain rapidly and in a few weeks had the appearance of a healthy, normal child.

She has had a physical examination and was found to be normal in every respect. She has never been sick and has never taken medicine of any kind, unless you consider honey a medicine.

We are certain honey is largely responsible for her present physical condition, and we believe there are many other children who would be greatly benefited by the addition of honey to the diet. One of the pictures was taken when she was thirteen months old; the other was taken on her second birthday, and we call her our Honey Baby.

On her second birthday

## Good Things Made With Honey

*Honey Snow*

| | |
|---|---|
| 1 pint milk | 1 teasp. vanilla |
| ¼ cup sugar | 1 apple |
| 1 tablesp. flour | ½ cup honey |
| 2 eggs | Salt |

Scald milk and add sugar, flour, egg yolks and salt. Cook till it thickens. Cool and add vanilla.

Grate apple and add honey and whites of eggs. Beat until stiff as whipped cream. (It will take about fifteen minutes.)

Cool both mixtures in the refrigerator.

To serve, fill sherbet glasses half full of custard and top with honey mixture. Serves eight.

Irene D. Parker, Kansas.

## Those Old Days Were Not So Bad After All

By J. F. Diemer
Missouri

WE old-timers, not ashamed of being born long ago, with our thrills and enjoyment of living equal to that of the younger generation, appreciate and enjoy the changes in a life so full. When you are 79, tomorrow will bring 80. At this age time goes swiftly.

The seventy-niners remember when "mother" set the table with the plates upside down and the knives and forks underneath. Spoons were not in use except at supper time, when mush and milk was the only bill of fare.

In those days education was mostly experience. The sole of your feet (and the other soul) never became excited because a hedge thorn ran up between the toes where only thin skin could be found.

We don't need to jump back very far to remember when mother spun the yarn from sheep wool, wove the cloth, cut out and sewed the warm woolen suits which of necessity had to do the whole year. When we put on those new suits we were in heaven up to our necks.

Another thrill was when father brimstoned the strongest colonies of bees so we could have honey to spread on the buckwheat cakes. Hog killing time was another thrill, with baked pig tail and brown gravy, with the south end of the backbone all nicely browned, corn bread made of old-style corn meal with a few eggs and buttermilk, cooked in a Dutch oven among a lot of hot ashes and live coals piled over and around the Dutch oven at the edge of the roaring fire in the old-time fireplace.

Talk about appetite; we had it bad! Appetites that never thought of a business depression like we have now. If there was any money those days, I do not remember seeing it. 'Possum hide made the change between a coon skin and a mink fur. Skunk hide made a good change if you could stand the smell; if not, you could tell him to keep the change.

We also remember when father and mother, Sunday mornings, took the lead, with five of us boys and sister Rose, in the rear, on the straight and narrow way to Sunday school, where we heard prayers for ourselves and all humanity—no doubt favorably granted, since humanity is still here.

About the only books I remember were the Holy Bible and the Holy Josephus, neither of which had much information about bees. Langstroth, Charles Dadant, and their writings, never reached us in the wild woods of southern Iowa. C. P. Dadant, author of many fine books, could have boosted the bee industry until it competed with Karo Syrup or sorghum molasses, but he came too late to give the bees a chance. Frank Pellett's wonderful book, "The Romance of the Hive," would have appealed to me much better than Josephus, because Jo never even mentioned bees.

But the old town of Bethlehem, on the River Jordan, in southern Iowa, settled by sincere Christians who would preach two hours for a load of wood, still appeals to me as a land of plenty, without a single depression of spirit or finance, with acorn-fed hogs and wild deer and dear girls, and a darn fine lot of boys that read Josephus and the Holy Bible until Jo got disgusted and died.

Poor old Joe! We appreciated him a lot because we had nothing else to read except the annual almanac, which came mighty handy, as it always told just the sort of weather we could expect for a whole year, and we considered it well worth the money. Our schools lasted ninety days—just like a bank note. As I remember it, the teacher knew a lot. He was so efficient that it only took him two terms to teach me the A, B, C's, which was swift work. After I got all this education I could have had a certificate to teach school, but the superintendent of the schools was busy killing hogs and would not take the time to give me the test, so I had to give it up and went to keeping bees.

## Stinging the Stovepipe

By Natt Noyes Dodge
Washington

"PEOPLE," said Mr. Brittain, manager of the Pacific Slope Honey Company, "are a whole lot like bees." He leaned back in his chair and looked out of the office window located on the third floor of a big brick building in the heart of Seattle's wholesale district. Seattle's busy waterfront, the rippled waters of Elliot Bay, and the blue of Puget Sound, with the snow-covered Olympic Mountains in the distance, made an ever-changing picture which held the attention and quickened the imagination.

"Away over there," continued Mr. Brittain, pointing toward the saw-toothed Olympics on the skyline, "is some of the best fireweed bee pasture remaining on the Pacific Coast. Logging operations are still going on over there and will continue for some time to come. Fireweed follows the logger, so Northwest beekeepers will have bee pasture as long as they can continue to tag along after the lumberman. My brother has an outfit of four or five hundred colonies of bees over near the southern end of the Olympics. I used to work in his bee yards, and I learned a lot about the habits of bees. The more I see of people the more characteristics I notice which we have in common with the bees.

"Late one summer I was helping Fred with the extracting. We had a hot fire in the honey house and were up to our necks in work. While I was taking a minute's rest I noticed a peculiar noise as if rain were falling on the roof. As rain wasn't appreciated while we were taking off honey, I stepped outside to see if there was a storm in the offing. Seeing no sign of rain, I went around to the back of the honey house to look for the cause of the patter on the roof. Imagine my surprise to see a cloud of bees angrily buzzing around the hot stove pipe. With sudden darts bees would make a vicious attack on the pipe, only to curl up and drop to the roof as the intense heat of the metal seared their bodies. It was these bees falling on the metal roof that made a sound like raindrops. There were a lot of dead bees on the roof and a pile of them on the ground beneath the eaves.

"It is not at all unusual for the nectar flow from fireweed to cease suddenly. Bees that have been enjoying a heavy flow search the blossoms in vain and develop a terrible temper. It is at such times that danger of robbing is greatest, and the beekeeper must wear a suit of armor if he must take off honey. Field bees coming within radius of the heat radiation of that hot stove pipe apparently considered this black creature as the source of all their troubles and were concentrating their attack on the innocent smokestack."

Brittain paused a moment to let his listeners think over his explanation of the incident. Then he continued:

"During the last four or five years, when the honey business has been so unsatisfactory, beekeepers have been calling each other and people indirectly connected with the honey industry a lot of bad names. One man may lay the blame for poor prices on a neighbor beekeeper whom he accuses of price cutting. Another may think that his troubles are caused by some honey bottler or dealer who, he thinks, is trying to manipulate the market to the beekeepers' loss. A third may concentrate his wrath on a beekeepers' cooperative marketing association, or other local organization. And nine hundred and ninety-nine times out of a thousand they're all wrong, because the honey marketing situation is practically the same throughout the world. It is the naturally result of an unfavorable balance of supply and demand—the same thing as was the cause of the anger of the bees that attacked the stove pipe, except in that case the nectar supply was suddenly cut off. The beekeepers' trouble are largely due to the supply being too large. It is a fundamental economic law that prices fall when supply exceeds demand. With a condition of low honey prices prevailing all over the world, it is as foolish to lay the blame at the door of any one local individual or organization as it was for the bees to attack the hot stove pipe.

"Beekeepers aren't the only people that act like the bees. Anyone caught in an unfavorable business depression is inclined to lay the blame on a competitor. Those that can't find a competitor handy usually pick on the President of the United States. Public men are always doing duty as stove pipes for a swarm of angry human bees to try to sting. I suppose that it is a universal habit, but," and he looked rather wistful, as if he would welcome the day when that phase of human nature might be changed, "it's sometimes mighty uncomfortable for the stove pipe."

## A Revolutionary Method of Uncapping

By M. N. Dillon
Michigan

Earl Keller, of Medina, Michigan, after much experimentation, has developed a rotary type uncapper which promises to revolutionize our methods of handling honey. It consists, as shown in the picture, of two metal rolls to which many rows of cotton keys are hung. These rolls revolve at two thousand revolutions per minute in opposite directions. The keys are thrown out by the centrifugal force and as the comb is passed through between the rolls the cappings are shaved off. The rolls are instantly adjustable for thin combs or fat combs. One man with this machine can uncap faster than two 45-frame extractors will throw out the honey.

## They Usually Are Associates

Little Johnny was being questioned by his teacher. While Johnny did not qualify as a Doctor of Letters, he most certainly proved that he was a close observer.

"Now, Johnny, let me hear you recite the alphabet."

"A—B— 'er, A—B— 'er."

"Why, Johnny, surely you know what comes after A—B?"

"Yes'um, a butterfly."

J. B. Dillon.

# THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

### MANURE FOR PACKING

I would like to know if it would be all right to pack my bees in manure this winter? Or does it not work wintering bees in manure without using an extra box or packing case? Would it be all right to put some straw around the hive body first to keep it clean, and will it not prevent condensed moisture? What kind of manure would be best? What thickness would be sufficient?

MINNESOTA.

Answer—I acknowledge that I have never tried manure around the hives. Unless you put a large amount around and over the hives, it would not be likely to give any heat. It would be sure to soil them. But if you use straw around the hives first, the manure might not hurt. I don't believe you would get any benefit from it, as the quantity you could use would probably freeze during the cold weather.

If you use straw, well packed and sheltered so that it will not get wet, I believe you will succeed better than with manure. If you intend to try manure anyhow, use horse manure, as cow manure is absolutely cold and much dirtier.

Mr. Tissot, a beekeeper of Ottawa, Canada, has his colonies in a double-wall hive. Then he builds a tight board fence around the apiary and the snow completely covers the hives. The warmth of the bees causes the snow to melt at the entrance, so that there never is any danger of the bees lacking air. That is a very good way for bees wintered in a locality of long cold weather and high winds.

### HONEY LEFT IN BROOD NEST

Will you please advise me with reference to my six colonies of Italian bees. I bought, last spring, two-frame nuclei, but was rather late in receiving them, and they missed the spring flow here.

However, on examining them lately I find they have completely filled the brood chamber and one super on my ten-frame hives (standard).

Would I be safe in removing the supers and only leaving what honey they have stored in the brood chamber?

I don't want to run the risk of weak colonies next spring, and would rather leave the supers on if you think there is danger of their not wintering on what is stored in the brood chamber; otherwise I would like to dispose of the surplus, as I can get 25 cents per section readily. Kindly advise.

TENNESSEE.

Answer—The answer to your question depends entirely upon how much honey there is in each of those lower brood chambers. If they are pretty well filled and contain at least thirty pounds of honey, it will be safe enough to remove the supers for winter, even if you have to help them with food in spring.

Your enquiry reads as if the upper stories are with ordinary pound sections. In that case it will be most advisable to remove them and make up what shortage there might be with sugar syrup fed on top of the brood chambers. Bees do not winter well when their cluster has to be divided in sections. Besides, it will probably pay you to remove those sections if you have sale for them. But under no conditions should you leave your bees destitute, either during the winter or in spring, until after the fruit bloom, and sometimes even later.

### UNITING BEES

Write me, a desciple. I am getting much from the "Honey Bee" and shall faithfully follow your method. But I am not quite clear about "uniting" (paragraphs 267-8, paragraph 623, "The Honey Bee"). I understand that if the bees are to be removed **in the cluster** it should be done on a cool day in November. But if Dr. Miller's newspaper plan is followed (which seems to me the simpler and safe), I suppose that should be done on a mild, sunny day. Am I right? I ask this because I have a colony (in ten-frame standard hive) that is numerically weak, and I am not sure whether the queen is dead or simply not prolific. Anyhow, I think the colony should be united to a strong one.

PENNSYLVANIA.

Answer—No, you should not do it on a mild, sunny day, but in the early morning or late evening preceding a mild, sunny day. The reason of this is obvious. If you move the colony on a mild day, there will be a number of the bees out in the fields, and those bees will be lost. But if you do it in the morning or in the evening, when all the bees are at home, when they go out in the morning they will notice that they are in a strange spot and will look and recognize the spot before leaving for the field. You will lose a few bees anyhow, but the number will be unimportant.

### CELLAR WINTERING

I have about eighty colonies of bees. I dug a hole in the ground which I call the bee cellar. This hole was, at the time it was dug, about 8x13x7 feet. Some fifty colonies have been wintered there and came out in good condition in spring. However, the walls have caved in several times and it is now somewhat bigger—as near as I can figure, about 9x14x7 feet, or a trifle more. Ventilating pipe, from the cellar floor and up, size 5x8 inches, intake about 5x5 inches. The cellar is fairly dry. The cellar temperature in winter is 41 and 42.

1. What is the greatest number of colonies that it would be advisable to winter in this hole?

2. Would it make any difference as to the number, whether they were in single or one-and-one-half or two-story hives?

There is plenty of room in the cellar under the house, but this is rather unhandy and is also colder; during the coldest part of the winter, water will freeze solid in this cellar.

MINNESOTA.

Answer—1. A hole 9x14 can easily accommodate eighty colonies or more. Your description indicates that this cellar would be all right. The temperature is also about right, perhaps a little low; you might reduce the draft through the pipe, as the amount of air it will give is more than ample.

2. As to the size of the hives, I consider it unnecessary to use more than a single story in the cellar. We generally leave the upper stories on the summer stand, well closed up, so as to keep moths or robbers out of them. We prefer to have the tiers of hives a little way up from the floor, say a foot or so, if the room will justify. In a seven-foot space there is plenty of room for a tier of five or six with a space of a foot or so at the bottom. Our reasoning is that it is damper near the floor, and sometimes also colder.

A cellar of this kind is much safer to winter bees than a house cellar in which water will freeze.

### CENTER CLUSTERING SPACE FOR WINTER

As the time is here for winter packing, I wish to ask if you have had any experience relative to leaving one or two frames out of the center so bees can cluster together better for protection against the cold, putting the frames above the division board into super which is packed with shavings.

I had intended to experiment on this, but thought maybe you could help out by giving me results of someone who had tried it out. Thanking you in advance, INDIANA.

Answer—If you were to leave an empty space as wide as the thickness of two combs, in the center of the brood chamber, the bees would try to fill that space with combs just as soon as they could and would spend a lot of honey in making comb. Bees do not wish any empty space wider than is necessary for them to pass. You might space your combs a little wider, say a quarter inch, in the middle of the hive, but when spring came you would need to put them back as close together as one and a half inches from center to center, otherwise they would build more or less between the combs.

In many hives the combs are spaced only one and three-eighths inches apart from center to center. We prefer one and one-half inches. This gives more room for them to hang in. But if the combs were built any farther apart, the bees would dislike it. If you have plenty of honey in the brood chamber, your bees will winter all right.

### ITALIANS OR CAUCASIANS

Living on the north shore of Lake Erie, a few miles from Buffalo, New York, I desire to entirely requeen all my hives next spring.

Which bees would you prefer, Italians or Caucasians? I want to choose the most gentle type that will be easier to handle.

ONTARIO.

Answer—We prefer the Italian bees to all others, because it is easier to recognize a mismating than with the Caucasians. The Caucasians are very good bees, but they resemble the common bees so very much that it is impossible to recognize a slight mixture of common black bees.

The Caucasians and the Italians are all gentle bees when they are pure bred. When they are mismated there is some doubt as to their disposition.

### PLANNING FOR SPRING PACKAGES

I am writing to ask if in your opinion it would pay to use a one- or maybe two-pound package of bees to strengthen a weak colony of bees in the spring, giving the package just as the honeyflow starts, or else giving it about five or six weeks before the honeyflow starts.

Would it be necessary to put the queenless package in an empty hive body with combs and use a newspaper to unite them with the queenright colony? I think giving a frame of brood from a strong colony would be simpler, but would like your opinion on the package plan. The package to be drawn from other strong bees or shipped in from the South. Thanking you for your reply,

COLORADO.

Answer—If the package is to be shipped from the South, it will be difficult for you to secure it at an exact time. In fact, if you get it early, it will be more satisfactory than if secured late. If you take it from your own bees, you can select the time, and it is best to have it some time before the crop begins.

To introduce it, there will be but little danger if both the package and the colony are well fed previous to uniting. The main trouble in uniting comes when the colonies are short. Then they are more apt to fight. But if they have been well fed they are likely to be in good humor, unless there are robbers about.

Put the queenless package on top of the other hive, with a newspaper between. If

there is but one queen, there will be no trouble.

A comb of hatching brood is very good also to strengthen a colony. The only objection is that it weakens one colony to strengthen another. So the best way is to buy the package from the South, where bees are plentiful early.

### THAT CHLORINE TREATMENT

Having read an article on foulbrood by M. C. Tanquary in the October issue of the American Bee Journal, I would be glad to receive some more information, as we have about 125 hives and equipment for same that are badly affected with American foulbrood. I have killed all the bees and expect to start with package bees again in the spring. There is only a small amount of honey in the hives, some hives containing no honey at all.

1. I would like to save all the good frames and fixtures; there would be about 2,000 full-depth frames and some other fixtures that I should save, and perhaps half that many that I expect to render out. I intend to use chlorine for treating these frames. After reading the article I find a difference in the amount of water used, which is not clear to me.

2. And also about how much chlorine would I need for the amount that I expect to treat? I would like to use a metal tank to treat the combs. As it would require from six to eight days to treat these combs mentioned, now while using this galvanized tank that length of time, will the solution damage the tank to any extent?

3. Also, by changing frames, will the solution in the tank weaken, or can I add the same amount of water-chlorine each time? SOUTH DAKOTA.

Answer—1. The article in question recommends the use of a pound of chlorine for 60 to 125 gallons of water. You had best use the smallest quantity of water in order to be safe.

2. From the article in question, I would judge that the amount of treating you propose to do would damage the tank to some extent. I don't know just how much such a tank could stand. It would probably depend upon the quality of the metal.

3. The solution will certainly weaken as you change the combs, and it is quite probable that it would be best to put in a fresh lot of chlorine at each treatment.

I have had no personal experience with these treatments and would recommend that you write to Mr Tanquary at the University of Minnesota, sending him some stamps for his reply, and ask him the above questions in as terse a way as possible, so as not to occupy too much of his time in the reply.

## Good Things Made With Honey

### *Honey Baked Ham*

Put ham on to boil in cold water. Boil allowing one-half hour per pound. Cool and remove outside skin.

Stick whole cloves in fat in rows about one inch apart.

Cover with mixture of honey, flour and mustard in the proportion of one-half cup honey, two tablespoons flour, one teaspoon mustard.

Put in baking pan, add a little water and bake about one hour, basting frequently with the mixture in the pan.

For a small family, bake a slice of ham an inch thick in water to nearly cover until tender. Pour off all but water to cover the bottom of the pan. Cover with honey mixture and return to the oven for a half hour.

Irene D. Parker, Kansas.

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### Wisconsin Convention, Milwaukee, December 4

This is to be a big meeting. Details are not at hand, but we understand it is a special meeting with many interesting features not on the usual convention programs. It will be too late to get details when this paper reaches you, but, by all means, crank up the flivver, stock up with a supply of whatever you will need, and go down to Milwaukee. All the boys will be there.

### Keyes Elected President of Sheboygan County (Wisconsin) Honey Producers' Association

M. E. Keyes, of Waldo, was elected president of the Sheboygan County Honey Producers' Association at the annual meeting November 7; Ben Goehring, Silver Creek, vice-president; Emil Langkabel, Plymouth, secretary-treasurer. Directors, in addition, were Herman Schultz, Random Lake; Charles Stauss, Elkhart Lake. Mr. Stauss was named delegate to the state convention in Milwaukee December 4.

S. S. Mathisen, county agent, gave a report on foulbrood in the county indicating that practically all bee yards were free from disease but that the work of supervision must be continued. The state provides a sum equal to that appropriated by the county for this work.

Members reported the honey crop short because of dry weather. Quality is not as good as that of other years and prospects for next year considerably better. — Wisconsin Trade News Bureau.

### Christmas Displays in Utah

Honey in glass jars will be extensively displayed at Christmas time in Utah and in coast cities, according to T. L. Ball, manager of the Superior Honey Company. The movement is spreading.

The Los Angeles branch of the company will feature Christmas display cartons and gift packages of orange blossom honey. Some day, Mr. Ball thinks, brilliant packages of Utah honey will be displayed everywhere over the state. G. P.

### Fire and Drouth Restrict South Dakota Honey Production

Fruitdale, South Dakota, reports that its honey production in that district is below normal this year, due to the drouth and a fire. One fire alone at an apiary cut the year's yield about 10,000 pounds.

J. B. Dillon.

### Honey Displays at the Northwestern Fairs

Special honey displays at several of the Washington and Oregon fairs this fall were of great interest with their diversity of products. At the Western Washington Fair, Puyallup, the displays in the bee building drew attention for many days. At the most recent of the Northwest fairs, at Portland, Oregon, the diversified honies native to the Pacific states drew people to the exhibition in great numbers.

A special guessing contest was put on by one exhibitor, the public being requested to guess the number of bees in an observation hive for a prize.

The Portland bee show was in charge of S. D. Williams, of Portland, president of the association, and L. J. Dame. Competition was keen. First prizes were as follows: Comb honey, H. J. Horst, Centralia, Washington; fireweed, Lewis M. White, of Keasey, Oregon; sweet clover, A. J. Sanford, Redmond, Oregon; white clover, S. D. Williams, Portland; alfalfa, J. Scovbo, Hermiston, Oregon; blended honey, L. J. Dame, Portland.

C. M. Littlejohn,
Washington.

### Meetings in Southwest Missouri

Dr. K. C. Sullivan, state apiarist; Messrs. Berl H. Coldwell and J. F. Diemer, first vice-president and second vice-president, respectively, of the Missouri State Beekeepers' Association, and a number of other progressive beekeepers held a series of meetings in southwest Missouri recently.

At the meeting held at the apiary of Mr. H. C. Scoville, Carthage, Missouri, the Jasper County beekeepers organized as the Jasper County Branch of the Missouri State Beekeepers' Association, with Mr. Charles F. Mottet, Webb City, as secretary.

The Newton County beekeepers held a meeting at Granby and will organize as the Newton County Branch of the state association.

The McDonald County beekeepers met at Noel, Missouri, and organized as the McDonald County Branch of the state association, with Mr. C. J. Light, Noel, Missouri, as president.

Nina Scott, Secretary.

## A Little Improvement in Cleaning Equipment, Mr. Miller

By A. G. Woodman
Michigan

In the September number is an article, on page 417, by E. S. Miller on cleaning inner covers and queen excluders. I want to suggest a little improvement.

At one time in northern Michigan I saw a beekeeper cleaning up equipment by a similar method, except that he was doing the work in a large iron kettle, with plenty of water and room. A fire was kept at one side of the kettle so the water boiled fiercely at this point.

In removing the equipment from the kettle, it was drawn up through this boiling water. This carried away from the equipment every particle of foreign matter, so that it came out absolutely clean, with no deposit. When there was an accumulation of scum on the far side, where there was not so much agitation of the water, it was skimmed off.

It was really surprising how the boiling at one side of the kettle kept all the scum and accumulation over at the other side. By building the tank, recommended by Mr. Miller, longer and by having a fire at one end, the same effect could be secured.

## Hillman Looks Forward to Higher Prices

State Apiarist Hillman, of Utah, is looking forward to higher honey prices as the surplus of last year is drawn upon. He thinks because of the shortage of production this year, prices this winter are sure to come up. The shortest honey crop in the history of the industry in Utah is reported this year because of drouth and lack of nectar in vegetation. There will only be about a third of a crop and possibly not much over one-fourth of the normal harvest. Where Utah normally ships out sixty to eighty carloads of honey every year, very few cars will be shipped this year. Many beekeepers are not taking any honey, but leaving it for the bees.

A costly lesson was learned by beekeepers of the state last year when probably 20 per cent of the bees were lost through starvation. In some districts as high as 70 per cent of the bees were lost, and in many cases this was not made up in the spring, with the result that there are probably 10,000 fewer colonies this year than last. There are about 60,000 colonies on record in the state as compared with 70,000 last year, according to Mr. Hillman. He also reports that the bees are more free from disease than in any other section of the country, with a disease rate of less than one and one-half per cent.

Glen Perrins.

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## Loss of Queens in Shook Swarming

By E. S. Miller
Indiana

Mr. C. D. Cheney, in July, asks about the loss of queens after "shaking." It more often happens that queens are lost before than afterward, due to swarming with a clipt queen. While the clipt queen may find her way back into the hive, it frequently happens that she disappears, and if the brood is then removed the colony becomes both queenless and broodless.

In making artificial or "shook" swarms, one should not make the mistake of leaving any brood whatever in the hive. When bees are in the mood for swarming they are very apt to start queen-cells, using any available larvæ, even if there are only a very few cells.

In fact, it is the rule rather than the exception. Of course, it is better to make all artificial swarms before colonies get the swarming fever, in which case it is seldom that a queen is lost. It is advisable to find the queen and see that she gets into the hive and not under it or some other place.

## Make It the Style to Eat Honey

We are continually trying to find reasons for the fact that people consume large quantities of commercial sugar in preference to honey. One theory is that price is the controlling factor. Commercial sugar, in bulk, is much cheaper than honey; and yet sugar in the form of high-grade candy sells for a great deal more than honey. Another theory is that honey is "messy" to handle, while granulated sugar is not "messy." How about the "messiness" of syrup? Commercial sugar, in the form of syrups, outsells honey many times over. Lack of uniformity in honey is another reason given for its low demand; and there are many other reasons given in an effort to account for the present slow, low-priced movement of honey.

No doubt all of these reasons have value and force, but they do not tell the whole story, either singly or all together. One of the strongest factors in control of human actions and habits is **fashion.** At present it is the "style" to use sugar as the universal sweet. Most beekeepers are thoroughly up-to-date in this respect. When a way has been found to convince the public of the fact that honey is superior to sugar, and, as a consequence, honey has become the "fashionable" sweet, the demand for honey will be greater than the supply.

R. B. McCain, California.

## A Balanced Sugar Candy for Winter Food

By George W. Adams
Massachusetts

This is an apple growing locality, with a number of well-managed orchards, and bees are a necessity, so it is my job to take care of them on some twenty-odd estates. Unfortunately in this part of Massachusetts there is only a scant supply of nectar, and the destruction of the willows since the coming of the gypsy moth has cut off the needed supply for building colonies up in the spring, so it is hard to get a good body of worker bees for the fruit bloom.

It is not worth while to try for extracted honey, and, while we put on a good supply of comb honey supers, it is more for the room and comfort of the colony than with the hope of a surplus, and with the idea that, should a quick honeyflow come, the raising of brood will not be checked by crowding the brood nest with honey.

Our problem, therefore, is to get bees, for poison destroys them almost as fast as they emerge. All orchards are heavily sprayed or "dusted", and also all the shrubbery on most estates, requiring many tons of arsenic. I find the small town in which I live distributed 3408 pounds in roadside and municipal spraying in a single year. This poison adheres to the leaves, and as all arsenical mixtures are attractive to the bees, it is eagerly lapped up when softened by damp weather or dew.

From this you can see that the preparation for wintering is difficult, as from six to eighteen pounds of sealed honey along the tops of five or six frames is the usual amount at the time of the first frost. To feed liquid is to put a heavy task on the bees, many being old, for, if fed more rapidly than they can "invert" it, it will granulate.

Not being satisfied with the commercial bee candy, made of 25 per cent glucose (to prevent granulation), some years ago I began to evolve a better candy for feeding, in collaboration with an expert professional candy maker. We were successful in getting a very finely balanced but hard candy, which, although made of pure sugar, seems to have lost all tendency to granulate and looks under the microscope like a mass of green grapes.

I have entirely abandoned feeding syrup, therefore, and have used during the past year somewhat more than 1400 pounds of this honey candy. Some forty to fifty colonies during the past winter started out with less than ten pounds of stores each and came through in fine condition.

So far, I have been unable to make definite comparison of the value of the candy as compared with honey, as a food, but six pounds of honey stored in the wintering cluster and eleven pounds of candy carries a colony through in outdoor wintering.

I have given up feeding syrup except for stimulation, and expect to use about a ton of candy next winter. It is, however, very important that the candy be properly placed and not too much of it fed at a time. It may be removed even at zero temperature.

In order to secure a perfect candy, I have had some made with the addition of a small percentage of airborne dust from a flour mill to supply protein. While it worked well enough, it does not seem necessary.

If my success in this is of benefit to beekeepers, I shall be glad to answer questions in the Bee Journal about the candy.

## Color and the Nutritive Value of Honey

Prof. H. A. Schuette, of the University of Wisconsin, sends us a copy of "The Daily Cardinal," a newspaper published on the campus of the university, in which Prof. Schuette tells something of the research going on at that institution, in the laboratory of food and sanitation, on color values in honey.

Prof. Schuette says the nutritive value of honey varies with the color. The color of honey is chiefly formed by the particular flower from which the nectar is obtained. Some honies are more nutritious than others by reason of the amount of copper, iron and manganese found therein, the percentage depending on the source of the nectar.

Prof. Schuette has a collection of various colored honies from various parts of the country, illustrating the color value and also serving as a basis of experiment. It is interesting to note that, according to Professor Schuette, although the white honies are often preferred on the market, the darker honies are considered more healthful.

## Good Things Made With Honey

*Honey Gingerbread*

1 cup honey
½ cup boiling water
4 tablespoons shortening
2½ cups flour
½ teaspoon salt
1½ teaspoon ginger
½ teaspoon cinnamon
½ teaspoon cloves
1 teaspoon soda

Mix water and honey. Sift together dry ingredients and add to liquid. Add melted shortening. Beat vigorously.

Bake in a shallow pan in a moderate oven.

Serve warm with whipped cream sweetened with honey.

Irene D. Parker, Kansas.

## A Northern View of "That Eternal Triangle"

By Cecil J. Lent
Iowa

In the question of the suitability of either white or dark honey for market, I think there is one side of the problem which has been ignored. The volume of white honey is considerably greater than that of the dark, and so producers of white honey have been selling their product over the world for generations and it is in the lead.

Three-fourths of all the honey produced may be listed as "white," and so it is only natural that people used to handling honey should call it "standard."

We know our northern honey is fine. We have no thought of getting out of the way for dark honey. So let us beekeepers producing what is considered the finest honey in the world supply it as a table grade wherever possible.

Let those who produce dark honey supply all the bakeries and confectionaries if they want to. The North will compensate by throwing in about a million dollars' worth of package and queenbee business — eh?! Mr. Bohne?

## Excuse Me—I'll Play Safe

I notice in a recent copy of a beekeeping magazine where a healthy colony of bees had been fed for three summers on commercial honey and had never contracted American foulbrood. Without further comment, I would like to relate a little experience I had.

Two years ago this spring my brother sent me two jars of orange honey from California. One of the jars was broken in transit, and as I was away when they arrived the broken jar and honey-soaked wrappings were thrown out near the bee yard in order that the bees might salvage the remains. A noble idea! As soon as I discovered what had been done, I immediately wrote the packer explaining what had happened and asking him in a nice way if that honey was from American foulbrood colonies. In case it was, I wanted to know it, so I could be on a vigilant lookout for trouble.

I kept a close watch and in a short time I began to find one and two cells of American foulbrood scattered promiscuously over my entire yard, and before the summer was over I had treated fully 50 per cent of my colonies. I am still waiting for an answer to my letter.

Lee Stewart, Indiana.

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**FIGHT TUBERCULOSIS**

## How Grasshoppers Help Reduce the Honey Crop

(Continued from page 549)

green and bearing blossoms. It was not unusual to see brown and dead sweet clover in infested areas surrounded by green and flourishing weeds and grasses, which the more hardy clover would have crowded out under normal conditions. In all of these cases an examination of the plants showed that they had been injured and often completely girdled by the hoppers.

One must also consider the damage that this year's hoppers have done to the seed crop and to newly planted clover and alfalfa. As has been stated already, many instances were found where the grasshoppers had taken the blossoms, depriving the plant of its source of seed production. The many new seedings of clover and alfalfa that were destroyed by the hoppers this year will tend to reduce the possibilities of a good nectar flow in these areas next year.

The beekeeper should, therefore, be one of the strongest backers of grasshopper control measures which have been carried on in South Dakota, Colorado, Minnesota, Nebraska, Iowa and other states. Lack of control methods and seasons favorable to grasshopper growth and development will only mean greater damage in 1932 and a more general and a heavier infestation. Should sweet clover be destroyed in these areas, the beekeepers would lose their best and most abundant source of nectar.

The most satisfactory method of controlling grasshoppers is by the use of poison bran mash. The formula usually given is as follows:

Coarse-flaked wheat bran (free from shorts), 100 pounds.

White arsenic (or Paris green), 5 pounds.

Molasses (blackstrap), 20 pounds.

Water, 10 to 12 gallons.

This paper does not allow the inclusion of all the information about mixing, applying and precautions to take in the use of poisoned bait. It is strongly recommended, therefore, that anyone interested in the use of poisoned bran write to their state entomologist, who will furnish complete information.

It is an item of interest to beekeepers that a honey-bran mixture was used and applied on the Seabloom farm one mile west of Missouri Valley, Iowa. Honey, bran and Paris green were the ingredients used in the first experiment, and as high a degree of success was experienced with it as with the molasses mixture; in fact, as many as 543 dead hoppers were counted within an area of approximately one square foot under ragweeds, where the hoppers had crawled to die after eating the poisoned honey-bran mixture. In the second experiment white arsenic was used and the bran was spread around stacks of alfalfa hay where the hoppers appear to congregate This also gave a kill successful to the extent that the alfalfa began to grow and in two weeks the areas around the stacks were green and flourishing.

The cost of honey compared to the cost of blackstrap molasses does not permit the commercial use of honey as an ingredient of the poison bran mash. Even discolored honey or poor grades of honey are too expensive. But it is of interest and perhaps some value to the beekeeper who has a farm or a garden which is suffering from damage to hoppers and who also has some unmarketable honey on hand. The honey can be used in the same proportion as molasses and the mixture can be used as a method of controlling cutworms and armyworms as well as grasshoppers.

Dr. O. W. Park suggests that the writers strongly advise against the use of diseased honey for this purpose. While the dilution is so great that very few, if any, bees would be attracted to the bait, there is, however, always a slight danger that there might be a few bees from different colonies securing sufficient contaminated honey from the scattered mash or from the mixing plant and dirty utensils to infect the brood. Although the writers failed to observe a single bee feeding on the honey-bran mixture, it is necessary to caution against the use or the sale of honey known to be or suspected of being infected with disease, as an ingredient of poison-bran mash.

## The 41st Annual Convention of the Illinois State Beekeepers' Association

was held at the St. Nicholas Hotel, Springfield, Illinois, November 17 and 18. In spite of the present depression, more than seventy-five beekeepers and delegates attended, making the convention one of the best Illinois had experienced.

The two-day program consisted of business matters, talks upon various problems and a banquet including good food, fellowship, and entertainment. The principal speakers of the meeting were: J. H. McClure, Murrayville; Roy A. Grout, Hamilton; R. S. Marsh, horticultural extension specialist, Urbana; E. R. Root, editor Gleanings in Bee Culture, Medina, Ohio; Louis Vannis, Harrisburg; B. F. Bell, Kingston Mines; C. F. Earle, Dalton City; Dr. William C. Wilson, St. Charles, Missouri, and H. C. Dadant, Hamilton. Professor V. G. Milum, secretary of the association, acted as toastmaster during the banquet and presented a very interesting and entertaining program, which included such prominent figures of the

state as J. H. Craig, assistant director of agriculture; Homer J. Tice, chairman of the Finance Committee of the House of Representatives; Representative William H. Jackson; Stanley Smith, of the publicity department, and H. L. Williamson, superintendent of printing.

Foremost among the matters of business was the recommendation of the Committee on the Illinois State Fair Honey Exhibit and Premium List. Recommendations consisted of providing for one-third more good display room and an increase of 25 per cent in the appropriation for premiums, the forbidding of out-of-state competition and the establishing of a class for county association exhibits and a class for amateur or small exhibits.

The association unanimously supported a resolution praising the work of the American Honey Institute and recommending that the association back this movement in a material way. During the meeting, individual subscriptions were made in addition to a substantial donation by the association. All of the present officers of the association were reelected for another term of office. A list of the officers for 1932 is as follows:

C. A. Mackelden, Jerseyville, president.

Louie Vannis, Harrisburg, vice-president.

J. N. Koritz, Buckley, vice-president.

Benj. H. Fischer, Roanoke, vice-president.

A. G. Gill, Chicago, vice-president.

S. F. Peterson, East Moline, vice-president.

Elmer Kommer, Woodhull, treasurer.

V. G. Milum, Vivarium Building, Champaign, secretary.

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## Good Things Made With Honey

*Honey Penochie*

2 cups brown sugar
1 cup granulated sugar
½ cup milk
¼ cup honey
1 tablespoon butter
½ cup nut meats
Pinch of salt
1 teaspoon vanilla

Put first three ingredients in sauce pan and stir while it comes to the boiling point, to prevent curdling.

Boil about three minutes, then add honey and cook to the soft ball stage, about two minutes more.

Remove from the fire and add salt and butter and set aside to cool.

When cold, beat until thick and creamy and add vanilla and nut meats.

Pour into pan and cut in squares when hard.

Irene D. Parker, Kansas.


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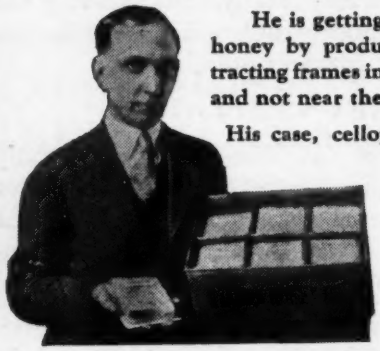

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Send 50c, plus postage on three pounds, for 1 shipping case; 24 cellophane wrappers; 24 fibre bases; and complete instructions. Or $45.00 for 100.

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# Crop and Market Report

Compiled by M. G. Dadant

For our December issue we asked reporters to answer the following questions:

1. How is the crop of honey moving?
2. Any tendency for jobbing prices to stiffen?
3. How much cooperation with Honey Week on the part of beekeepers?
4. Are bees going into winter in good condition?

### How Is Crop Moving?

In practically all instances the crop is reported as moving slowly. This is not surprising in view of present conditions and also further in view of the fact that the weather has been so unusually warm during the fall months. The sales have been better, we believe, in the Central West than in any of the other sections.

One almost universal report is that amber honey is moving much better than usual, apparently due to the fact that the American Honey Institute has stirred up a large amount of interest on the part of bakers and other trades for amber grades of honey. One of the large selling concerns in the West reports an actual scarcity of amber honey, whereas usually they have difficulty in placing their amber supply.

On the contrary to slow movement, reports are coming from some sections of the West that carload movements have been better lately and that there does not seem to be any question but what the entire crop will move satisfactorily.

### How Are Jobbing Prices?

There seems to be little question but what there is not a great amount of stiffening in jobbing prices as a general rule. However, it is apparent that the tendency is not towards a lower price for honey, but the other way, particularly in the western sections of the country, where the carload lots are gradually being cleared up. One or two states are already reporting that most carload shipments have been made and that buyers are out hunting for honey, which they are unable to find. The foreign demand has continued about as usual without a great deal of stiffening, so that not much can be expected in that quarter.

So far we cannot report any indication that a honey shortage or a heavy honey demand is going to make for a quickening in honey prices. Any stiffening of honey prices during the winter months will come gradually, if at all, and will be the result of a strong and steady effort on the part of beekeepers to move their crop and to keep their customers supplied by purchasing from others. There is one weak point we have always had in honey distribution, and that is that the distributor of honey has not continued to keep his customers supplied by buying from outside sources. This is particularly true in the case of an individual beekeeper who runs out of his own crop.

### Honey Week

Although a number of reports came in from our correspondents stating that nothing had been done in regard to honey during Honey Week, a majority of the reports indicated that there was an interest, and this interest in many cases very strong. Take for instance in the case of Maryland, where the home demonstration agent in every Maryland county, operating through the Extension Division, gave demonstration talks on honey. Radios were also used, so that there was a fair coverage of the state. Several national hookups broadcasted honey lectures, as well as a number of smaller stations serving local needs. A number of extension departments also had broadcasts over the radio and there were innumerable numbers of exhibits placed at stores, banks, etc. All in all, we believe that there has been more publicity of honey during the Honey Week than there had been in an entire year previously. A concentrated effort such as this cannot help but have its effect, particularly when it is hooked up with the radio and with articles and news notes appearing in both general papers and local ones.

### Condition of Bees

The copious rains and the mild weather during the fall have given opportunity for our placing bees in the very best shape for winter. Where bees were short of stores, there was an opportunity to feed, but in most cases this was not necessary on account of the heavy fall crop in most sections. Furthermore, with honey at low prices, there was not the tendency to rob bees close and most bees have been left with ample stores for winter. In some sections there has been a question as to whether the warm fall weather would not necessitate feeding on account of the unusual amount of stores used up by the bees. This was particularly reported in Wisconsin, Oklahoma, Colorado, and Wyoming. California also reported similar conditions.

The Southeast perhaps is the least satisfactorily located as to condition of bees on account of the extreme drought during the fall, when the balance of the country was having ample rains. There was a tendency in these cases for the bees to cut down on brood rearing.

All in all, we believe that condition of bees is far more satisfactory than they were last year and honey plants have improved wonderfully, particularly in the white clover regions, where it appeared that white clover had been burned out by the extreme drought. However, most of the clover plants were first year plants and the root system had gone far into the ground, so that the fall rains have revived them and the plants have spread in elegant fashion. It looks like there would be ample white clover for a crop next year if weather conditions prove right at that time.

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FOR SALE—100 colonies of Italian bees, 200 comb honey supers, 100 extracting supers with drawn comb. All combs built from full sheets foundation. Will guarantee free from disease. The first reasonable offer takes them. Bert Gander, Bayard, Iowa.

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HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

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HONEY FOR SALE—All grades, any quantity. H. & S. Honey and Wax Company, Inc., 265 Greenwich St., New York City.

FOR SALE—Extra choice white clover honey, case or carload; also amber. David Running, Filion, Mich.

FOR SALE—Northern white, extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

WHITE clover extracted honey. Write for prices and samples. Kalona Honey Co., Kalona, Iowa.

NEW CROP shallow frame comb honey, also section honey; nice white stock, securely packed, available for shipment now. Colorado Honey Prod. Ass'n, Denver, Colo.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. E. J. Stahlman, Grover Hill, Ohio.

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FOR SALE—Sweet clover extracted honey; quality and body fine. Thomas Atkinson, Route 5, Omaha, Neb.

HONEY—We sell the best. Comb in carriers of eight cases each; extracted, basswood, buckwheat, sweet clover, white clover and light amber. Tell us what you can use for prices. A. I. Root Company of Chicago, 224-230 West Huron St., Chicago, Ill.

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HOWDY'S HONEY—Best quality clover extracted, at reduced price. Howard Potter, Jr., Beekeeper, Ithaca, Mich.

FOR SALE—Extracted sweet clover honey, 7c a pound F. O. B. Montgomery, Ala., and basswood-clover honey, 8c F. O. B. Menomonie, Wis. In 60-lb. cans, two to the case. M. C. Berry & Co., Box 697, Montgomery, Ala.

FOR SALE—White clover honey in sixties, 7c per pound. Joseph H. Hoehn, Ottoville, Ohio.

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CAR or less white extracted sweet clover and alfalfa. George Seastream, Moorhead, Minn.

FINE clover honey, extracted. Case or ton. Write amount needed and get prices. L. G. Gartner, Rowan, Iowa.

LIGHT amber honey $8.00 per 120-pound case. New cans and cases. Sample 15c. Sylvester Legat, Spring Valley, Ill.

TABLE HONEY—In barrels. Peter W. Sowinski, Fort Pierce, Fla.

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NEW low prices and freight paid east of Mississippi up till 10th only. Illustrated circulars free. Full and complete line of the world's greatest health sweets. Griswold Honey Co., Madison, Ohio.

FOR SALE—White clover comb and extracted in sixties. C. Holm, Genoa, Ill.

FOR SALE—No. 1 clover comb, $3.50 per case; No. 2 clover, $2.50. Buckwheat and fall comb, No. 1, $2.50; No. 2, $2.00 per case. On a 24-case shipment, 5% discount; 48 cases, 10% discount. For other prices, write H. G. Quirin, Bellevue, Ohio.

## HONEY AND BEESWAX WANTED

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5 cents a pound for wax rendering. Fred W. Muth Company, 204 Walnut St., Cincinnati, Ohio.

WANTED—Western states water-white and white honey in car lots. Send type samples. Advise quantity, price and point of shipment. E. F. Lane & Son, 325 Davis St., San Francisco, Calif.

WANTED—A car or less quantity of white honey in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, 816 Hazel St., Birmingham, Mich.

WANTED—Car lots of honey. State quantity, shipping point and price. Mail sample. Hamilton, Wallace & Bryant, Los Angeles, Calif.

WANTED—Comb honey. Will pay part cash and the balance in package bees and queens, 1932 delivery. M. C. Berry & Co., Box 697, Montgomery, Ala.

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WORK—By trained bee man. Share or wages. Charles Hotopp, Racine, Minn.

POSITION wanted in commercial apiary establishment, by reliable, industrious man 27 years. Three years' experience. Milton Benner, 7032 South Elizabeth St., Chicago.

WANTED—300 to 500 colonies of bees to work on shares by experienced beekeeper. Northern plains states preferred. G. J. Lengst, Prairie du Chien, Wis.

WANTED—Work with beekeeper. Wages or shares. Lots of experience. Robert Hassard, Reedsport, Ore.

## SUPPLIES

MAKE queen introduction sure. One Safin cage by mail, 25c; five for $1.00. Allen Latham, Norwichtown, Conn.

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## MISCELLANEOUS

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AUTOMATIC SWARM TRAPPER—Practical, efficient. Literature free. Vikla Manufacturing Co., Lonsdale, Minn.

GROW VITEX TREES for beauty and bees. Twelve- to 24-inch trees, 30c each; twenty-five or more at 25c each; 24- to 36-inch trees, 50c each; twenty-five or more, 40c each, all prepaid. Seed at $1.50 per ounce. Joe Stallsmith, Galena, Kansas.

## From the Little Blue Kitchen

(Continued from page 555)

ture crystallizes, adding the flavoring after the mixture has cooled a little. Drop in small pieces on buttered or paraffin paper. The vanilla may be omitted.

**Honey Caramels**

2 cups granulated sugar
½ cup cream or milk
¼ cup honey
¼ cup butter

Mix the ingredients; heat and stir until the sugar is dissolved, then cook without stirring until a firm ball can be formed from a little of the mixture dropped into cold water. Beat the mixture until it crystallizes, pour into buttered pans and cut into squares. The addition of pecan nuts improves these caramels.

For a real final touch to the Christmas dinner, any of these desserts, recommended by the Bureau of Home Economics of the U. S. Department of Agriculture, would surely qualify:

**Soft Honey Cake**

½ cup butter
1 cup honey
1 egg
½ cup sour milk
1 teaspoonful soda
½ teaspoonful cinnamon
½ teaspoonful ginger
4 cups flour

Rub the butter and honey together; add the egg well beaten, then the sour milk and the flour sifted with the soda and spices. Bake in a shallow pan.

**Honey Charlotte Russe**

1 quart cream
6 lady-fingers
½ cup delicately flavored honey

Chill the honey by placing the dish containing it in a pan of ice water. Whip the cream and add it to the honey, mixing the two well. Line a dish with lady-fingers and fill it with honey and cream. Serve very cold.

**Honey Mousse**

4 eggs 1 pint cream
1 cup hot delicately flavored honey

Beat eggs slightly and slowly pour over them the hot honey. Cook until the mixture thickens. When it is cool, add the cream, whipped. Put the mixture into a mold, pack in salt and ice and let it stand three or four hours.

From the American Honey Producers' League comes a helpful little book for those interested in using honey as a vital element in their diet—and who does not, if he is "in the know" about honey food values?

In this little "helper" come two recipes for honey breads. The first is for

**Honey Bran Bread**

Mix together three cupfuls of Graham flour and one cupful of bran, and sift on to these two cupfuls of white flour to which one and a half teaspoonfuls of salt have been added. Stir together until mixed. Add two cupfuls of milk, or a mixture of milk and water, into which one yeast cake, blended in a little water, has been added, and stir the whole well together. Add one-half cupful of HONEY, mixed with one-fourth cupful of melted butter and other shortening, and one-eighth teaspoonful of baking soda, dissolved in a teaspoonful of water and added to the honey.

Cover and let rise until doubled in bulk. Knead down, adding barely enough white flour to keep from sticking to board; place in pans, let rise again to double in bulk and bake for an hour in a moderate oven. This quantity will make two loaves.

**Honey Rye Bread**

Mix six cupfuls of rye flour with two teaspoonfuls of salt and six teaspoonfuls of mixed spices (ground caradmon seeds mixed with caraway seeds make a delicious mixture for use here). Stir one-half teaspoonful of baking soda dissolved in water into a pint of honey; add to this one beaten egg and one-half yeast cake blended in a little water. Work the whole well together and spread to the depth of an inch in shallow pans. Cover and let rise until double in bulk, and bake. The oven should be rather hot, and care should be taken that the mixture does not burn. This makes a delicious bread and one that keeps well. Any desired mixture of spices may be substituted for those given, if desirable.

## Does This Refer to You and Me?

J. J. Harpel, a Denver, Colorado, merchant, speaking before the Retail Merchants' Association of Colorado, said:

"More than 40 per cent of last year's failures were due to incompetency and ignorance," and then he severely criticized the attitude of business men, attributing the present day affliction as all due to the depression. "I firmly believe that the position of the alert, progressive retailer is more secure today than for many years."

Right now all of us can well ask, "Does this refer to me?" We may know, or think we know, our business, but do we? If results justify an affirmation, then we are O. K. Contrawise, we are not O. K. and should seek our shortcomings and remedy.

Have we been content to wait for the buyer to come, or have we gone out and sought the buyer? If we have waited, we have lost business. Then surely we are not acting in a competent manner.

If we hoot the idea of hustling in this competitive age, we are most certainly ignorant of conditions, requirements, etc., hence Mr. Harpel's accusations are true and far reaching.

It is observed that some prominent newspapers are advertising their advertisers by telling the folks to read the advertisements so that they will know what to use for a variety of meals. Is honey given the space among grocery advertisements that it merits? Seldom, if ever.

Well, suppose the prospective customer scans the advertisements and does not find honey mentioned. What happens? Honey is left on the shelf, not because of its lack of superiority, but due to our neglect of pressing the issue. This is no play on words; it is the truth. Yet our business will be better if we are better business men and women.

J. B. Dillon.

## Send Your Institute Honey Donations to These Receivers

These individuals and firms have agreed to take in honey donated to the American Honey Institute, sending a check to Russell H. Kelty, treasurer of the American Honey Institute, East Lansing, Michigan, for the value of the honey at the market price, less the freight:

**Honey Receivers**

Allen Latham, Norwichtown, Conn.

Bee-Kist Products, Inc., 8272 Jefferson Street, Phoenix, Ariz.

A. G. Woodman Company, Grand Rapids, Mich.

Dadant & Sons, Hamilton, Ill.

James Gwin, Department of Markets, Madison, Wis.

Lothrop Nursery Company, Aberdeen, S. D.

T. W. Burleson, Waxahachie, Tex.

O. S. Bare, Extension Entomologist, College of Agriculture, Lincoln, Neb.

Sioux Honey Association, Sioux City, Iowa.

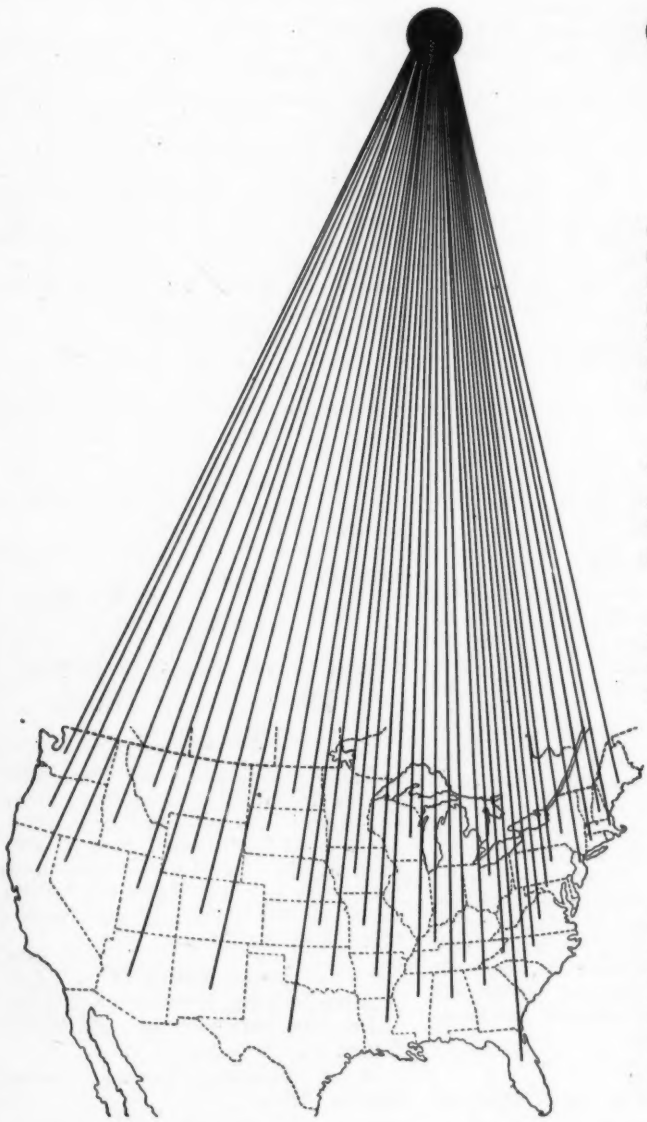
H. M. Krebs, Sacramento, Calif.

George C. Barton, Meriden, N. H.

Colorado Honey Producers' Association, Denver, Colo.

Above receiver nearest you is to be notified of the number of pounds you contemplate sending in before shipment is made.

# Once More



## *Our Honey Message Reaches Millions*

During National Honey Week, just past, the broadcast stations of all the national networks and many of the state and local stations carried the story of honey and of its use to millions of housewives in every corner of this country. The quickening impulse following this publicity has been noted by beekeepers wherever they made an effort to sell honey, and it is still helping sales in practically every market.

Not only were beekeepers behind National Honey Week, but organizations with unlimited resources turned aside to help. Food industries, dieticians, home economic workers everywhere responded to the proposals of American Honey Institute to support honey.

**This is just one** of the constant efforts of American Honey Institute continuing from day to day, from week to week, through every possible channel of contact, to make the American nation honey conscious.

## *Your Part Is to Make Sure This Work Goes On*

Do not pass by this statement lightly. It is seriously given. American Honey Institute cannot continue without the support of beekeepers, and that must be given without hesitation every year or the Institute cannot carry on its great work. It is impossible to visit each beekeeper personally. If this could be done, the small amount of support requested would be given without hesitation.

If every beekeeper were to give several times the basic amount he is asked to give, just for the broadcasting during Honey Week, there would not be enough money to pay to put our message on the air. It is only because beekeepers have an educational organization in American Honey Institute, without any axe to grind, that such results are possible in the honey industry.

## Be Sure You Do Your Part NOW

**Basis of Support**—One dollar per ton; or one-half of one per cent of your crop of honey.

Send your honey to any of the list of receivers given on page 569.

If you send money, send it directly to

## AMERICAN HONEY INSTITUTE

225 WIMMER BUILDING -:- INDIANAPOLIS, INDIANA

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